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The result of cooperative planning with teachers, supervisors, administrators, architects, and technical experts, this manual emphasizes space relationship between the educational program and physical facilities. General information covers--(1) school planning, (2) new school planning committees, (3) instructions to architects, (4) objectives of education, and (5) curriculum philosophy. Information is given for junior and senior high school areas describing--(1) location, (2) site, (3) built-in equipment, and (4) other furniture and equipment. Junior high information includes in addition to standard areas, science, special education, TV classroom, and reading room. Senior high information includes health rooms, counseling area, restroom facilities, business education, and foreign languages. Common areas mentioned are--(1) library, (2) school lunch, (3) health, physical education, recreation, athletics, and auditorium, and (4) school site. References on school planning are cited in a bibliography. (MM)

MANUAL
for
NEW CONSTRUCTION

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JUNIOR & SENIOR HIGH SCHOOLS

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JEFFERSON COUNTY PUBLIC SCHOOLS

LOUISVILLE, KY.

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MANUAL
for
NEW SCHOOL CONSTRUCTION

JUNIOR AND SENIOR HIGH SCHOOLS

JEFFERSON COUNTY BOARD OF EDUCATION
EDUCATION CENTER BUILDING
3332 NEWBURG ROAD
LOUISVILLE KENTUCKY 40218

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PUBLISHED BY

DEPARTMENT OF NEW BUILDINGS AND GROUNDS

NOVEMBER 1964

FOREWARD

Adequate school facilities are needed in order to provide an educational program that will best benefit the individual student. In order to provide these facilities, the need for a manual for new school construction was recognized throughout modern school systems, especially in rapidly expanding population areas. This need for more advanced planning of school buildings was reviewed by the board of education, superintendent of schools, and the administrative staff. The contents and the arrangement of the manual were structured at one of the central office staff meetings.

If the environment, conveniences, and other facilities provided by the building were to meet the needs of instruction, a continuous planning program for new school construction must be implemented with representation in the planning from all areas including . . . instruction, supervision, administration, operation, and maintenance. A decision was made to use advanced planning committees composed of leading teachers throughout the Jefferson County School System to plan the instructional areas of the schools. The principals of each high school and each recently built elementary school were asked to nominate experienced and forward thinking teachers to serve on these committees to plan for future new schools. A committee consisting of a principal, assistant principals, and counselors planned the administation areas of the high school.

This manual, with emphasis on space relationship between the educational program and physical facilities, is the result of cooperative planning with teachers, supervisors, administrators, architects, and technical experts. The Department of New Buildings and Grounds was delegated the responsibility of completing the organization of the committees, conducting the committee meetings, and directing the completion of the manual. Overall guidance and assistance of the work was given by the superintendent of schools, central office staff, and the Jefferson County Board of Education.

Various leading school systems throughout the South, East, and Middle West were contacted for similar materials to be used as a guide for study and structure of the manual. Special emphasis was given to areas with similar and equal economic advantages. Personal visits were made to many schools in the South and Middle West for observation and suggestions on the latest arrangement of the offices, classrooms, and special areas and also, the equipment used in modern school buildings. School planning is a continuous process to meet changing needs. There is no intent to bind the architect with unyielding specifications.

PHILOSOPHY

The school is the newest of the three basic institutions of a democratic society. Modern man must learn how to conquer and control as much of his environment as possible and he must learn to adjust to the part that he cannot conquer. He must learn how to make a desirable livelihood while adjusting to the demand of an increasing complex society and still maintain an enjoyable attitude towards life. "A man is free in the degree to which he has a rational grasp of himself, his surroundings, and the relations between himself and his surroundings."

Our society must maintain a correct balance between orderly behavior and free endeavor and not get confused by whether we should use clinical or statistical prediction to guide our actions. During the formative years of our early society, common barriers such as natural hardships, Indians, and other enemies caused the people to stand together. Today, most of these early natural causes are gone and they must be replaced by a society educated for democracy. Our education program must not only reach out to the cutting edge of society but must project out into the unknown with our social studies and other courses in the same manner as the scientist have done in science to guide society around the many damaging obstacles it is to meet as it matures and avoid stagnation which is the forerunner of a decaying society.

The school is also concerned with the development of the whole child. Today many think the primary task of the public school is to nurture intellectual development to the exclusion of the other aspects of growth. The school exerts enormous influence on the child in all areas of development.

The school's contribution to child development is enhanced through the cooperation of parents and teachers. This cooperation, if it is to become meaningful, must be on a basis of real concern for the education of the child. It cannot be a simple reporting of grades on a report card. The reporting of teachers to parents can become a communication in which parents and teachers share insights which will make the learning process more acceptable and meaningful to the child.

Lifelong learning is vital for every individual and only by continuous nourishment of the human mind, body, and spirit can man discover population mobility and rapid scientific change that have made learning a lifelong quest. Adult education offers all citizens, regardless of age or previous experience, the opportunity to grow in knowledge and understanding. They can acquire technical and professional skills, experience new diensions in human relations, and develop leadership in their potential leaders. The masses can develop the ability to cooperate and follow intelligent courses of livelihood and citizenship. This concept of total community participation in education can help make the American dream a reality for individuals and for the nations as a whole.

It is now the high school's task to provide opportunities for every youngster to develop to the greatest possible extent all that is in him in body, mind, and spirit. The school must strive to personalize as much of the students school experience as is practicable. Every boy and girl must be thought of as an individual with unique problems, interests, and potentials and not as another face in the crowd. Opportunities for individual expression on the part of the student should be encouraged. Such a philosophy dictates a building designed to stimulate such expression, both in an academic and in a social sense.

WE BELIEVE

That every person is of worth, is endowed with human dignity, is unique and has a right to the opportunity to realize his own potential.

That the freedoms guaranteed by the Constitution and the "Bill of Rights" are essential to the perpetuation of a democratic society, and that all persons need to understand the privileges and responsibilities of a citizen.

That self realization, human relationships, economic efficiency and civic responsibility are essential to the full development of the individual.

That, since we live in a rapidly changing world, all persons should be prepared to accept change and to meet unknown challenges by developing a firm foundation upon which intelligent judgment might be based.

That, since change is inevitable, our philosophy must constantly be re-evaluated.

ACKNOWLEDGEMENT

The Jefferson County School System wishes to acknowledge the valuable assistance received by the State Department of Educations, School Systems, Professional Books, Pamphlets, Booklets, and Magazines listed below.

NEW BUILDING MANUALS

Atlanta, Georgia Public Schools - A Guide for Planning and Construction of School Facilities in Georgia

Fulton County Board of Education - Elementary and High School Construction - 1963

Detroit Public Schools - Phillip Murray Senior High
New Eastern High and Family Center

Dade County Public School, Miami, Florida - Check Lists for Architects

San Diego Public Schools - Secondary School Building Planning Guide

Los Angeles Public Schools, Los Angeles, California -
Junior High School Standards
A Guide for Planning Senior High School Housing Facilities

Wyoming - Report of Recommended Educational Specifications for the Angelique Beaubien Junior High School

Des Moines, Iowa - What the School Business Officials Must Know About Changes in Education to Build Good Schools

Jefferson County School, Lakewood, Colorado - Guide and Standards for School Construction

Nashville City Schools, Nashville, Tennessee - Tentative Educational Specifications Proposed Junior High School

Kentucky State Department of Education - School Economy Studies

American Association of School Administrators - Planning America's School Buildings

Burlington City Schools - Report to the People

REFERENCE BOOKS

Basic Mathematics for General Education, Third Edition - Harold C. Trimble, E. W. Hamilton, and Ina Mae Silvey

Team Teaching - Judson T. Shaplin and Henry F. Olds, Jr.

Science Teaching in Secondary Schools - John S. Richardson

Schools for the New Needs - An Architectural Record Book

BOOKLETS

New Schools for New Education - Educational Facilities Laboratories, New York

Flexibility in the Co-ordinated Classroom - E. F. Hauserman Company, Cleveland, Ohio

Profiles of Significant Schools -
    Newton South High School, Newton, Massachusetts
    Wayland Senior High School, Wayland, Massachusetts
    North Hagerstown Senior High School, North Hagerstown, Massachusettes
    Two Saginaw Middle Schools, Saginaw Township, Michigan

Abington Township Senior High School - Abington, Pennsylvania

The Humanities Program - Flint Community Schools, Flint, Michigan

Educational Specifications - National School Supply and Equipment Association, Chicago, Illinois

How Much Should a Good School Cost? - American Association of School Administrators National School Public Relations Association

Adult Education in the Public Schools - National Associations of Public School Adult Educators

School Building and Future Sites Program - Board of School Directors, Milwaukee, Wisconsin

MAGAZINES

American School Board Journal

The Nation's Schools

Overview

MAGAZINES (Continued)

School Management

American School and Universities

NEA Journal

KEA Journal

School Planning

International Journal of Religious Education

School Business Affairs

Educational Equipment and Materials

School Life

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PART I

GENERAL INFORMATION

SCHOOL PLANNING

Inspired planning recognizes the dynamics of change. Educational planning will improve only to the extent that it is interwoven with and made a part of the fabric of our whole culture. With a burgeoning population and an expanding economy, we find deserving but conflicting interests all competing for money, talent, and space. The requirements of education will be better understood and satisfied when they are seen in perspective, properly fitted into the whole picture.

In these days of unprecedented need for planning and constructing new school plants, there is a persistent demand from the general public for economy. Much has been written about specific building features to which economy is attributed, and almost as much about features which might, theoretically, reduce costs of school plants. At the same time, educators warn repeatedly against "false" economies; although, few have ventured to state what is "false." While no single economy measure seems likely to make a great reduction in the costs of school plants, there are, literally, hundreds of little savings available to school planners which, taken together, can effect substantial savings in a building program without jeopardizing the educational program. Large sums of money have been spent and will continue to be expended for school construction which should provide the best school facilities possible at the most economical cost.

In intelligent planning we must recognize that efficiency and cost factors are but two of the many elements in the three translucent dimensions of planning. Unless art in all its forms is permitted to shine through in infinite variety, giving form, color, texture, motion, rhythm, and purpose, planning is hollow and meaningless and does not express the full depth of our culture. We know our schools are inadequate and we know some of the things we should be doing to improve them. Technological advances are making it possible for us to do better work and to do it more efficiently in building school buildings today. We know with certainty that changes will be made, but changes in education cannot be made haphazardly.

School board members, administrators, teachers, architects, and lay citizens have approached school building planning by taking a good look at the kind of space and equipment that teachers and pupils need and can use to best advantage in the teaching and learning processes and have designed buildings that will neet these essentials. Everything else has been trimmed off. The beauty of these new school buildings, which are really beautiful, grows out of their usefulness. Because new school buildings are so attractive, pleasing, and beautiful, and because they are so useful and practical from end to end, sometimes the impression is given that they are extravagant. A good look at the facts reveals that they have been planned with a careful eye to economy as well as to usefulness and pleasing appearance.

A good building is planned and designed to facilitate intellectual, emotional, physical, and social development of all students. A good building recognizes in its planning and design the fact that no two individuals are exactly alike. Therefore, if we are interested in building a better America through providing the best possible education for all, our school buildings must consist of far more than rows of classrooms.

Every space in a school building finds its justification in the contribution it makes to the all-round development of the students it houses. The same reasoning applies to the engineering facilities. Good lighting, sound control, good heating and ventilation, and now air conditioning are justified solely on the effect the resulting conditions have on students and teachers. Educational facilities are no longer merely a school building and its grounds. Space within a building is planned for what will be taught in it and how it will be taught. Installations for effective use of electronic and mechanical aids must be provided. Educational facilities must be as different as the learning activities planned for the students.

To keep pace with its changing responsibilities, education today needs school building interiors that are both functional and flexible to provide for varied grouping and a wide choice of activities. The school influences physical growth, intellectual development, social functioning, character training, and emotional adjustment to life to a varied degree for all of the students in the school.

In keeping with the flexible grouping requirements of the modern school curriculum, depending upon the grade-level and child development-level, a classroom interior accommodates different amounts and arrangement of furniture and equipment. The modern classroom interior makes provision for this by including such aids as movable furniture, teaching units, a more intensive use of vertical teaching surfaces, and functional space dividers which assist the thoughtful teacher in her varied programs of instruction. A higher degree of space utilization will make the school plant an economical one.

It is superfluous to propose a new shape for classrooms under the guise of making them flexible. The basic idea is valid that the most truly flexible classrooms are rooms in which the floor area can be increased or decreased as the nature of the classroom activity requires. Such classrooms can be readily divided into smaller rooms or spaces for groups of 10, 20, 50, 100, or more. Demountable or folding partitions are used to create these smaller rooms or spaces within the original classrooms. More completely flexible classrooms are becoming practical realities.

New instructional methods and flexible room arrangements will make it possible to subdivide auditoriums and other large general pupose areas into instructional areas of various sizes for both small and large groups, and thereby increase the use of these spaces by as much as 90 percent. Study halls are beginning to undergo a change. We see a trend to the study-resource rooms where students may read, listen to and view tapes, observe films and slides, work on self-teaching and self-appraisal machines, use science and other equipment, and to think, write, and participate in other more or less individual study activities.

Hand-in-hand with large and small group instruction goes the new concept of team teaching, both on the elementary and secondary levels. It is necessary that we provide working space for the "team," preferable close to their area of operation.

There is at present a strong trend to provide triangular or pie-shaped spaces for classrooms and other group acitivities. The geodesic dome has proven to be as economical and more functional than the conventional rectangular gymnasiums in several instances. These new building forms will undoubtedly be used more in the future; however, do not accept odd shapes and forms unless they seem sensible and practical for the school program being considered.

"When it is considered that more than five-sixths of all the children in the state spend a considerable portion of the most impressionable period of their lives in the schoolhouse, the general condition of those buildings and their influences on the young stand forth at once as topics of prominence and magnitude. The construction of schoolhouses connects itself closely with the love of study, proficiency, health, anatomical formation, and length of life. It is believed that, in some particulars, their structure can be improved without the slightest additional expense, and that in other respects, a small advance in cost would be returned a thousandfold in the improvement of those habits, tastes and sentiments which are so soon to be developed into public manners, instituions, and laws and to become unchangeable history." This is quoted from one of the most influential books on schoolhouses ever written.

The schools we are building will house several generations of students. As we design and plan these buildings, we should keep in mind what kind of educational programs we should have in them and what kind of facilities and equipment they are to house.

The committees composed of administrators for the office section and leading teachers in their subject areas were selected from the various high schools of the system. Care was exercised to secure fair representation from each high school and for each subject within a subject area. On the following pages is a list of the active committees that helped formulate the plans for this manual for new school construction.

NEW SCHOOL PLANNING COMMITTEES

High School Office Committee

Mr. Willie Bruce
Mrs. Brownie Pierson
Mrs. Marion Moore
Mr. Dennis Robertson
Mr. Harvey Dixon

JUNIOR AND SENIOR HIGH

Art

Miss Nell Coke
Mr. Ellison Tubb
Mr. William Griffin
Miss Jacqueline Hunsaker

Band

Mr. Charles E. Barret, Jr.
Mr. Robert L. Bischof
Mr. Donald Stilts

Choral Music

Mrs. Wilma Wilson
Mr. James Strause
Mrs. Norma Homes
Mrs. Martha Jay

Commerce

Mrs. Lula Hodge
Mrs. Ann Taylor

Commerce (Cont.)

Miss Georgia Carson
Mrs. Beth Floyd
Mr. James Lay

Core

Mrs. Sara Merrill
Miss Irene Durham
Mrs. Faye Baird
Miss Kim Zingraff
Mrs. Maxine Stickler

Foreign Language

Mrs. Mary Trent
Miss Margaret Arnold
Mrs. Shirley Rush
Mrs. Marie Boone
Mr. Donald Ensminger

Home Economics

Mrs. Lorelei Butler

Mrs. Frances Durham

Mrs. Thelma Farmer

Mrs. Loraine Browning

Mrs. Ann Hardin

Industrial Arts

Mr. Harry Heideman

Mr. James R. Sherrard

Mr. James Stites

Mr. Benjamin Hudson

Mr. Bill Perkins

Library (High School)

Mrs. Anna Diecks

Mrs. Sarah White

Mrs. Margaret Ripley

Mrs. Glenna Smith

Miss Bonnie Henneman

Math

Mrs. Mildred Owings

Mr. Reason Newton

Mrs. Dorothy Richardson

Mr. Clyde Caudill

Mr. James Ewing

Mr. Robert Lamkin

Physical Education

Mr. James Wary

Mrs. Darleen Taliaferro

Mr. Michael Dubick

Miss Matilda Walker

Mr. Nicholaas Wiese

Miss Mary Schuler

Science

Mr. John Taylor

Mr. Paul Elliott

Mr. Jerry Rexroat

Mr. Thomas Tichenor

Mr. Glen Eakle

Social Studies

Mr. Robert Shea

Mrs. Frances Steiner

Mr. Charles Schifler

Mr. Kenneth Bell

Mrs. Beatrice Hoblitzell

T.V. Classrooms

Mr. Donald Brooks

Mrs. Estelle Barnes

Mrs. Maxine Adams

Mr. Brutus Taylor

Mr. Joseph Driskell

INSTRUCTIONS TO ARCHITECTS

General Instructions:

Today the modern school needs to be more functional than at any time in the past. After the size of a new building has been determined, the next point of importance is the interior arrangement. The school building must be planned without any frills or unnecessary expense that does not add to convenience, comfort, or quality teaching. The philosophy of constructing functional educational plants and not just knowledge dispensories is to make every enclosed square foot or cubic foot of space a productive one. All horizontal space should be either corridors, aisles, and students or teachers working space. The vertical wall space should be taken up with doors, bulletin boards, chalk boards, cabinets, or windows. There should be as few as possible of dead or non-functioning spaces in an economical and efficiently planned school building.

There must be proper balance between the number of classrooms, toilet facilities, lunchroom facilities and the heating plant. The modern constructed building should have mechanical heating and ventilation, proper lighting to give the proper candle power recommended for each area, and ample chalk board that give the greatest contrast at classroom distance. There must be bulletin board for stimulating, promotional, and exhibitional displays by both teacher and students, cabinets for storage, and sink facilities in applied arts, practical art, special education, and any other area where water adds to the instructional program.

The buildings must be made as safe as possible. They are constructed of materials that are almost fire-proof throughout. The greatest of safety is built in the steps, hallways, and doors, with some provision being made for the physically handicapped with ramps and special toilet facilities. A child may be spending the safest six to seven hours of its wake period at school.

The pressures for greater utilization of the plant have resulted in a trend toward the installation of air conditioning systems. Some school boards have decided that all new buildings should either be equipped with or be designed for future installation of air conditioning. We may find within a short time that ducts and other equipment now thought to be necessary are no longer needed to air condition a building.

It is fairly certain, however, that insulation will continue to be important in both air conditioning and heating. The extended use of air conditioning has encouraged other design trends such as, lower ceilings, less glass area, and more compact units through reduction of corridor space have resulted. Caution must be exercised to assure proper artificial lighting and ventilation.

The instructions, procedures, requirements, and specifications contained in this publication and supplemental drawings are to be followed, where applicable, by architects preparing drawings and specifications and supervising construction for the Jefferson County Board of Education, hereinafter referred to as "Owner." Any changes or deviations must be approved in writing by the Owner.

A. Architect's Planning

1. After instructions from the Board of Education as to the new building needs, the architect will submit rough sketches to Owner to determine general layout, relationship of units to each other, approximate square footage in each area, location on site, driveways, walks, play areas, and other site facilities, including sewage disposal.

2. When Staff and Board of Education approval has been given on rough sketches, the architect will proceed to prepare a preliminary floor plan at 1/16" or 1/8" scale and submit 3 copies of same, along with B.G. Forms 2 and 3 completed to Department of New Buildings and Grounds at the Central Administrative Office.

3. The architect will also submit a copy of preliminary plans and specifications to both the local Health Department and State Fire Marshal for approval.

4. The Department of New Buildings will check the preliminary plans, execute B.G. Form 1, and secure a fee simple title to property. All forms and plans will be forwarded at the same time to the State Department of Education for approval.

5. Working drawings will be started only after preliminary sketches have been approved by the State Department of Education.

6. Architect must work closely with Owner during the development of working plans and specifications.

7. The Department of Instruction is responsible for submitting a program of instruction for a new school to the Department of New Buildings for forwarding to the State Department of Education or to submit it directly to the State Department of Education prior to approval of final plans.

8. The architect will plan the general construction, electrical, plumbing, heating, and site construction to be taken on separate bids. Chalk and tack boards will be in the general contract, but science and art cabinets, kitchen equipment, refrigeration, stage curtains, built-in wardrobe and sink cabinets, and

bleachers in the gymnasium will each be taken on separate bids or a combination of bids.

B. Taking Bids

1. The architect will set an approximate date that the plans will be ready to go out for bids and notify the Department of New Buildings and Grounds who will follow through on the legal requirements for taking bids, advertising in local paper, etc.

2. The architect will be responsible for placing a copy of the working drawings, detailed specifications, and other information in the hands of prospective bidders.

3. The architect is responsible for announcing the bid date and executing all the preliminary forms with contractors prior to the bid date.

4. The architect is responsible for sending out all addenda to all prospective bidders and receiving acknowledgement of same.

5. Bids will be opened by the architect in the presence of the Director of Business Affairs and the Department of New Buildings and Grounds.

6. The architect will be responsible for deciding the successful bidders in each category which is based on the responsible low bidders.

7. The architect will be responsible for executing the completed contract and forwarding it to the Department of Finance and eventually to the Department of New Buildings and Grounds for filing and reference use.

8. The Department of New Buildings will compile the bids and forward the result, indicating the successful bidders, to the State Department of Education for final approval.

9. The Department of Finance will secure financial approval from the State Department of Education for construction of the building.

C. Construction

1. Architect must provide adequate supervision for this construction. He must work with mechanical, electrical, structural engineers, and others to determine that all services are properly co-ordinated.

2. Materials which are economical initially and have a low upkeep will be used.

3. Design must be kept simple, clean, and straight lined. Design capacity will be maximum.

4. The elementary school should contain a heating plant, lunchroom facilities, approximately 24 instructional units, a library, and other general areas with a capacity for about 720 pupils.

5. The original unit of the high school should contain about 40 instructional units for about 1,000 pupils, counting the large T.V. room which has the capacity of about 6 normal instructional units.

6. Buildings will normally be two story for elementary schools and two and three story for junior high and senior high.

7. Additions
    a. generally the addition will follow the design of the existing building and the outline should be shown on the original plans.

8. Surveys
    a. the architect will make all necessary surveys and topographical plans.

    b. surveys will include information on all utilities, including sewers if available.

BUILDING THE BUILDING

The high school building is planned for the 2-4 plan to be built in two or three stages for an eventual enrollment of 2,200 to 2,300 students. The junior high facilities for the seventh and eighth grades will be one wing of the building which may have a separate or common entrance with the senior high. It contains junior high offices and classrooms, but is not constructed until the second phase of the total building.

The first phase of the senior high division of the building and all of the common areas for both junior high and senior high like the library, lunchroom with kitchen, heating plant, band building, shops, and health building are built as the first phase of a new high school. The building will be occupied by grades seven, eight, and nine the first year and adding the tenth grade the second year of school before building the junior high division side of the building. The purpose of building the first phase of the senior high first is to justify the initial cost of the building by using the first phase through the tenth grade. If the junior high phase of the building was constructed first, the initial school enrollment through the ninth grade could not be housed in it.

The technical or laboratory rooms built in the first phase that will be used by juniors and seniors about two years later will only be equipped initially with the built-in cabinets and equipment for those subjects, but will be equipped with junior high furniture and senior high furniture for general purpose classrooms for use through the tenth grade. Technical areas like science, which will be expanded in the final phase of the senior high, should be constructed at the end of the original building so that the departments can be expanded into the final addition.

The outside physical training facilities, walks and driveways, and a large portion of the parking area will be constructed during the first phase of the new school building program. The football bleachers and the track for running events must be financed and constructed by the local school community at a later time.

The junior high wing or phase of the building, complete with offices and classrooms for all subjects in the seventh and eighth grades, will be built as the second phase of the total building. The third and final addition, if needed, will be added to the senior high division of the school, making a complete 2-4 plan school for 2,200 to 2,300 students. This size of school and the 2-4 plan was arrived at by a district wide planning committee representing a complete cross section of the business and professional people of the district. This plan gives enough size for an economical operating plant but divides the school into smaller and more well defined schools for better administration and comprehensiveness of the instruction program within the total school.

OBJECTIVES OF EDUCATION

The objective of education is to develop in the individual the intellectual power and knowledge to make him capable of the problem-solving and decision-making that will be required of him in his life as a citizen in a great democracy. If the student is to progress towards these goals, they must be helped to develop the ability to think critically, organize the facts at hand, and to make rewarding conclusions while under professional guidance and instruction.

The student must acquire the proper tools for communication, thinking, comprehending, assimilating, professional or technical competence, and leisure social techniques. A satisfactory relationship with other people must be mastered, along with the democratic principles that make our democracy work. The student needs knowledge and understanding of the physical world and the life processes involved.

In the primary grades occurs the development of the basic skills. The early fundamentals of reading, writing, and arithmetic, as well as the fundamentals of socialization, are developed. The progression from the primary to the intermediate level carries over these fundamentals and introduces a well-defined range of new activities and content. The intermediate level expands through application of the generalized tools acquired in the primary grades.

Further progression at this level finds carefully planned expansion of fundamental skills and activities. Avenues of communication now become openly available in the advanced curriculum according to the developmental status of the pupils. This expansion involves communication outside of reading, including the extended use of audio-visual aids, art, and a wide variety of construction activities.

During the brief generation in which cultural changes have been taking place at an ever accelerating rate, the field of education has been undergoing significant developments and change. Emphasis on teaching has shifted from programs in which children were taught principally about the past to a program teaching the children about the past, present, and future. Subjects taught-in-isolation have been replaced with correlations of content. The old "assign-study-recite-test" method of instruction in many subjects is rapidly giving way to "learning-by-doing."

Increasing scientific insight into the nature of learning processes shows that knowledge is not a thing apart from behavior itself. Research in child development and in the nature of the educative process is giving deeper and clearer meanings to the expressions, "the whole child," "learning through activity," "symmetrical growth," "pupil purposes," "teacher-pupil planning," and the "inseparability of child and environment."

The curriculum that must be implemented to attain our educational objectives seems to be one of the great educational problems of our time. Often people talk as if there was one simple solution and the solutions they offer are many. They say, for example, that all will be well with the curriculum if it is planned locally; if it grows out of the needs of the child; if students are made to take the tough courses; and if education concentrates on the fundamentals. Good as these ideas are, no one of them is the whole solution.

Our educational objective should be to help every person understand the world of today, and should make him ready to understand the new world that is to be. Leading authorities are convinced that much of what we now teach in colleges we must learn how to teach in high schools and that all our schools must learn to teach fundamental concepts that are not yet taught anywhere. We must be equally sure that the old fundamentals are not obsolete and that new ones must be accepted. Society is convinced that every pupil must be motivated to learn more, to study subjects requiring strict mental discipline, and to achieve a stouter and more stable mental outlook than he has had in the past.

If, for lack of vision, we fail to prepare everyone for a world that will make unprecedented demands on every citizen, it is probable that a new dualism will develop in our society. In this dualism there may be, on the one hand, a scientific elite which is a sophisticated minority quite capable of shaping the new world as they envision it, and, on the other hand, a majority incapable of either understanding or coping with a world of which they are not a vital part.

CURRICULUM PHILOSOPHY

Schools are developing the curriculum continuously around worthwhile areas of life experiences. They are permitting each child to progress at his own rate and are encouraging each child to make his contribution to group activities in terms of his individual ability and interest. The trend in recent years is toward a more practical life-like curriculum. It is the school's responsibility to guide a pupil through the vast maze of facts on the great variety of subjects with which contemporary education must make him familiar, help him to develop his own creative abilities, and to teach him to cooperate with his fellow pupils as he must do throughout his life.

Much of the information needed to grasp many of the new concepts in education was unknown to man 50 years ago. Long before we learn how to get all this information into the curriculum, a mass of other necessary information from the frontiers of knowledge will be crowding for a place also. An attempt is being made to find a place in the curriculum for all this information so that students may be prepared to understand this new world he lives in and to cope with its complex problems that must have at least a partial solution. The curriculum must become at once broader, deeper, and newer. All learners must achieve standards substantially higher than those we have set. If we are to make this improvement, we must have a finer quality of vision than we have had in the past in developing our curriculum.

When a school building is planned, there are two main factors to consider. One factor is---How far does the education program of the school system want to take the students with their formal education? The other factor is---What does it plan to teach them while they are in school? Both of these factors depend to a large extent upon the availability of advanced educational training facilities to the students after they graduate from the school system.

Some school systems remote to trade, commercial, and other advanced school facilities may need to train the students as far as the industrial and commercial needs of the community require or demand in addition to a liberal arts education. The students graduating or terminating their education from the Jefferson County School System have a state regional trade school within the county and also, a trade school and many commercial type schools in the city of Louisville, the county seat. This school system recognizes these factors when constructing the curriculum for the schools.

The Jefferson County School System recognizes three easily distinguished groups of students to educate during their formal schooling. The first group plans to terminate their formal schooling with graduation from high school and enter the labor market immediately. The second group plans to graduate from high school and enter advanced training in trades, commerce, or other technical schools available. The third group plans to enter college for more advanced technical or special training leading to college degrees.

The group that terminates all formal schooling at graduating from high school may increase to be a large group if colleges and universities do not keep abreast of the space needs of students. The educational aims for the first two groups that do not plan to go on to college are:

1. To give all these students a liberal arts education for citizenship and basic communication.

2. Basic science training to understand, appreciate, and benefit from nature study and science information.

3. Shop training for the boys to perform home and community services that they will be unable to purchase from an economical standpoint and also to enter light commerce and industry.

4. Homemaking training for the girls to strengthen this basic of the three institutions to a democratic society.

5. Creative arts training for appreciation, participation, and creative expression.

6. Commerce training for entering light commercial work.

The educational aims of the third group known as the academic or college prep group are:

1. Liberal arts education for citizenship and communication.

2. Basic training in the crafts and creative arts program, especially during the junior high phase of the curriculum.

3. Academic courses for college preparation and to meet entrance requirements.

Special emphasis is given to a broad educational curriculum in the junior high school, consisting of the seventh and eighth grades, as this is the last phase of the students general education program in most secondary schools. Specialization in education begins in the ninth grade, leading to one of the three types of high school program listed above.

PART II

JUNIOR HIGH SCHOOL

JUNIOR HIGH SCHOOL PROGRAM AND ORGANIZATION

A two story building to house the junior high wing of the high school should be ample to accommodate approximately 800 students. The building should house the junior high offices, about 24 classrooms, and maybe a junior high physical education building. The common areas with the senior high are: library, T.V. classes, lunchroom, industrial arts area, heating plant, and the physical education building, if one building is constructed for both junior high and senior high schools.

The junior high class schedule indicates the exploratory nature of the junior high school program. Experiences are provided in many areas and each student is offered a wide range of courses in the two junior high grades. It is the thinking of the curriculum planners that the junior high program should be exploratory in nature and that the students need the broad educational program before being offered elective courses later in the senior high school. The program is a planned program required of all junior high students with very few electives.

The instruction program of the junior high school, consisting of the seventh and eighth grades, is organized along the core curriculum type. The body of knowledge considered necessary for citizenship, communication, and health instruction is known as core curriculum. This includes the subjects of english, social studies, and health taught in a three hour block of time. The term "Core Program" is given widely different interpretations in practice.

The special and technical subjects---art, home economics, music, science, mathematics (T.V. and regular classes), physical education, industrial arts, special education, and corrective reading are departmentalized and taught by subject major teachers in those areas. General mathematics in the seventh and eighth grade, except for the slower groups and the advanced program, is taught by television.

The junior high school should maintain a well-articulated program, occupying the central position between the elementary school and the high school. It was also decided that the ninth grade could better use the common areas and the technical facilities with the upper three senior high grades than with the seventh and eighth grades. The specialization, the technical courses, and the senior high facilities, along with the wide area of electives for the upper grades, were needed by the ninth grade pupils for earlier specialization. This is the basis for the 2-4 plan instead of the 3-3 plan.

JUNIOR HIGH OFFICES

The junior high office area should serve as the administrative headquarters for all administrative action, secretarial services, communications, conferences, office for visiting teachers, teachers work center, school health center, and the center for community activities. The office area should be designed for efficient use of spaces and operation of the school. The furniture and equipment must reflect a business character and contribute to maximum function of the area.

Location:

1. On the ground floor at the entrance to the junior high wing of the school building.

2. Should be located adjacent to the common areas of the junior high and senior high, with easy access to the senior high offices for maximum coordination of administrative matters of both schools by the senior high principal who is in charge of the total school program.

PRINCIPAL'S OFFICE

Location:

1. Near the front of the administrative area close to the general clerk area and the counselors.

Size:

10' x 15'

Built-In Equipment:

1. One wardrobe closet with storage and wardrobe facilities
2. One outside phone
3. Inter-com phone system from offices to console
4. One program clock for ringing bells
5. Chalk board - 4' x 6'
6. Tack board - 3' x 6'

Other Furniture and Equipment:

1. 1 - double pedestal desk with plastic top, 34" x 72" x 29", conference type

2. 1 - swivel chair

3. 1 - settee, 2 place

4. 2 - side chairs, 17" high, to match settee

5. 1 - utility table, 30" x 72" x 29"

6. 1 - double bookcase, 60" x 36" x 9"

CONFERENCE ROOM (FUTURE OFFICES)

This room will be used for school conferences, P.T.A. officers' meetings, and other small group conferences. It can be converted into an office for assistant junior high principal and an additional counselor in the future if needed.

Location:

It should be located in close proximity to the junior high principal, general office clerk, and counselors.

Size:

10' x 16'

Built-In Equipment:

1. One 4' x 6' chalk board

2. Outlets for future outside phone and inter-com phone

Other Furniture and Equipment:

1. 2 - tables, 30" x 60"

2. 10 - plain chairs, 17"

3. 1 - electric wall clock

GENERAL OFFICE

This area will serve both the administrative and counseling personal.

Location:

It will be located conveniently for entrance by students from the classroom area and also for visitors entering from the parking lot.

Size:

18' x 20'

Built-In Equipment:

1. 1 - 12 ft. counter with entrance gate from side near administration area
2. 1 - Outside telephone, two lines, with extensions to other offices
3. 1 - Inter-com phone
4. Phone outlets for future additional clerk
5. Telephone closet or shelf for public phone
6. Electrical outlets for 2 secretarial desks

Other Furniture and Equipment:

1. 1 - secretarial desk, 34" x 60", with plastic top, left typing pedestal
2. 1 - secretarial chair
3. 8 - plain chairs, 17", for waiting area (4 for administration and 4 for counseling)
4. 2 - 4 drawer file cabinets, letter size
5. 1 - typewriter, electric or manual
6. 1 - adding machine
7. 1 - printing calculator
8. 1 - electric wall clock

VAULT

A vault will probably not be justified in the junior high area. If one is installed, the following information should be used.

Location:

Locate between general office and junior high principal, with the door opening from the general office and visible from the hallway.

Size:

6' x 8'

Built-In Equipment:

1. Combination lock on door
2. Built-in shelving
3. Key case for 96 keys

MAIL AND MIMEOGRAPH ROOM

Location:

Between the general office and teachers lounge with hallway entrance from corridor and also an entrance from general office.

Size:

10' x 12'

Built-In Equipment:

1. 1 - Work counter 6 ft. long with plastic top and a sink near one end
2. 1 - Section of 32 mailboxes built in corridor wall
3. 3 - Sections of metal shelving 36" wide x 87" high x 12" deep

Other Furniture and Equipment:

1. 1 - table, 30" x 72", with plastic top
2. 4 - plain chairs, 17"
3. 1 - metal storage cabinet
4. 1 - spirit duplicator, heavy duty
5. 1 - electric wall clock
6. 3 - sections metal shelving (offset type)

TEACHER'S LOUNGE AND WORK OFFICE

Location:

It should be located between the classroom area and the mimeograph room, with door entering from main corridor.

Size:

10' x 16'

Built-In Equipment:

1. One restroom with wash basin and commode
2. Exhaust fan in restroom
3. One bulletin board, 3' x 6', near entrance

Other Furniture and Equipment:

1. 1 - adding machine
2. 1 - manual typewriter
3. 1 - typing table
4. 1 - electric wall clock
5. 1 - checkerette
6. furniture to be furnished by P.T.A. as a special project

HEALTH ROOMS (1 BOYS AND 1 GIRLS)

1. Should be located near the counseling area.

2. Two restrooms and a clerk storage room forming the area between two health room.

3. One restroom opens from boy's health room and one from girl's health room.

4. The storage room opens from the general office area and is used for general storage.

Size:

1. Health rooms - 8' x 12' each
2. Restrooms - 4' x 5' each
3. Storage room - 4' x 5' for general storage

Built-In Equipment:

1. Restrooms
    a. 1 - commode for each
    b. 1 - washbasin for each
    c. ventilation system for both
2. Shelving in clerks storage room

Other Furniture and Equipment:

1. 2 - cots each
2. 1 - first aid cabinet each

COUNSELORS

There should be one office for boys counselor and one office for girls counselor with provision made for a third counselor if the counselor-student ratio is increased.

Location:

Across from the general office on the outside wall with windows in each office.

Size:

10' x 12'

Built-In Equipment:

1. Outlets for outside phone and inter-com phone

2. One chalk board, 3' x 6', placed on side wall near the desk

Other Furniture and Equipment:

1. 1 - double pedestal desk, 34" x 60" x 29", plastic top, conference type

2. 1 - swivel chair

3. 3 - plain chairs, 17"

4. 1 - 4 drawer file cabinet

5. 1 - combination storage cabinet, 36" x 78" x 18"

6. 1 - bookcase, 60" x 42" x 10", double section with 2 adjustable 9" deep shelves on each side

BOOK STORE - LOST AND FOUND

The main book store will be operated by the senior high school. Also, under the state program of free textbooks in the seventh and eighth grade, there will not be any books to sell in the junior high division.

To justify space for handling the small number of daily supplies needed as a convenience to the students, the Book Store should occupy part of a common space with the Lost and Found. This area should have a dutch door or sliding window to the corridor and a door opening from the office area for better operation and control by the office clerk. If these two compatible areas are operated together, a space can be justified.

Location:

The book store and the lost and found department should be located in a space between the classrooms area and the office area to cut down on noise and confusion in the administrative area. It should be near the junior high offices for supervision and receiving of stock supplies.

Size:

6' x 8'

Built-In Equipment:

1. Shelving on one side and end for supplies

2. Shelving and clothes rack on opposite side for Lost and Found

3. Dutch door or sliding window

RESTROOM FACILITIES

Location:

There should be one general restroom for girls and one for boys on each floor. They should be as conveniently located as possible to the classroom area and for students passing to and from the lunchroom.

Size:

1. Girls - 16' x 32'
2. Boys - 12' x 32'

Built-In Equipment:

1. Girls
    - a. 6 - Washbasins
    - b. 6 - Mirrors
    - c. 10 - Commodes
    - d. 1 - Sanitary machine
2. Boys
    - a. 4 - Washbasins
    - b. 4 - Mirrors
    - c. 2 - Urinals each 4' to 5' long
    - d. 5 - Commodes

JUNIOR HIGH ART

Objectives:

1. Acquaint the student with a new form of expression
2. Develop art as a vision language
3. Develop awareness of art
4. Develop appreciation of the beauty of art
5. Develop creative thinking
6. Helps the student recognize personal self realization
7. Helps students to reflect interpretation of and personal involvement with experiences
8. Helps to reflect the diverse feelings and interpretation of youth living in a free society
9. To help students understand the function of art in the development of civilization

Location:

The location of the art room should preferably be on the first floor in the manipulative skills area, adjacent to industrial arts or shop units, home economics, the stage in the gymnasium or auditorium. It would also have an outside entrance near the parking areas or open out on a patio for outside painting if desirable.

Space Requirements:

The secondary school should provide 50 square feet of working space per pupil in the self-contained art classroom. Since the State recognizes thirty students in average daily membership as a classroom unit, the art room must provide pupil working space not less than thirty feet in width and approximately 50 feet long or a total of 1,500 square feet per room. In the self-contained art room the room will be divided into areas such as: ceramics, crafts, studio painting, and general purpose.

The minimum convenient and functional storage space should allow a minimum of four cubic feet per pupil anticipated in the program. This would not include storage within the room for student in-process projects and student supplies. A common small windowless, walk-in store room 10 feet by 16 feet for the storage of general supplies and student work retained for exhibit should be located between two art rooms with a door to each one. There should be two small individual store rooms, one for each art room. A display window area may be placed in corridor wall outside of art room.

All services such as electrical power (sufficient for kilns, power tools, etc.), gas, if desired, and two double sinks, island type, with hot and cold water and equipped with plaster traps, should be located in two separate work areas in each room.

Additional Facilities:

1. Install a ventilation system to control paint and other strong odors.

2. Install room lighting on two separate switches, with some provision for special lighting effects as optional fixtures.

Optional Facilities:

1. Small spray booth for glazing

2. Enameling station

3. Special treatment of counter and floor near sinks and enameling station

Built-In Equipment:

1. Two sections 8 ft. long of chalk board spaced at 2 separate places in room.

2. One section of tack board on wall to a height of 7 feet (optional)

3. Wall cabinet storage space for student's paintings and sketches

4. About 20 ft. of work counter 40" high with plastic top and equipped with shelves below, placed along one wall

5. Two double sinks - one island type in ceramics area and one island type near painting area. One basin type sink for enameling may be substituted for one of the double sinks.

6. One electric outlet 220 volts 60 amp. service for kiln in the ceramics corner

Other Furniture and Equipment:

1. 32 - plain chair, 17"
2. 6 - tables, 36" x 60"
3. 2 - double face easels
4. 1 - work bench, 30" x 60" x 32", with two vises
5. 1 - metal teachers desk, single pedestal, 36" x 48" top x 29" high, conference type
6. 1 - teachers chair, 17"
7. 1 - metal storage cabinet for supplies, 36" x 78" x 18"
8. 2 - paper storage cabinets
9. 1 - potters wheel bench
10. 1 - clay cart
11. 1 - 48" ladder (storage room)
12. 2 to 3 sections of metal shelving for clay displays
13. 1 - ceramic kiln 220 volts 60 amp.
14. 1 - enameling kiln (optional)

JUNIOR HIGH CHORAL MUSIC

This room will be used for general music classes scheduled in the regular programs, glee clubs, choral groups, choirs, and small vocal ensembles, either as regular program or as co-curricular activities. This classroom will be used for group singing by groups of various sizes, rhythmic expression, creative activities, music appreciation, listening, discussions, and writing. There will be viewing of films, filmstrips, slides, and tapes.

Location:

Choral music should be located in the creative arts area along with the other music between the academic classes and the industrial arts. It should be located on the first floor of the main building near the auditorium or the stage in the gymnasium.

Size:

The room should be approximately 30 ft. by 40 ft. to accommodate students from two standard classrooms or approximately 64 students. It should be as near square as possible.

Built-In Equipment:

1. Acoustical tile should be placed on the ceiling and continued downwardly from the ceiling one-third of the distance to the floor. Suggested reverberation timings for rehearsal rooms are 1.1 seconds for choral music.

2. Ventilation should be about 1¼ times the normal amount for this size area.

3. Two sections of small windows with four windows in each section placed in the top part of the outside wall.

4. Semi-circular risers 8" high, 32" deep placed in four levels, leaving about 6 ft. free along one end of the risers near the door for shelving.

5. Build approximately 25 lineal feet of shelving three shelves high to accommodate students personal books across the open end. A music sorting rack may be built in part of this space. A wardrobe for robe storage 10' x 5' x 22" should occupy part of this space.

6. Chalk board - 16 ft. long, eight feet of this should be lined with music staves with five lines each 3/16" wide and spaced one and one eighth between lines.

7. Tack board - 16 ft., half placed on each side of the chalk board at the front of the room.

8. Metal teachers combination cabinet, 66" wide x 66" high x 15" deep for coat, storage, and bookcase.

Other Furniture and Equipment:

1. 1 - metal teachers desk, single pedestal, 30" x 48" plastic top x 29" high, conference type
2. 64 - chairs with folding arms and flat wooden bottoms
3. 1 - legal size 4 drawer file cabinet
4. 1 - storage cabinet for 100 records, stored vertically
5. 1 - metal storage cabinet, 36" x 78" x 18", with lock
6. 1 - piano, upright type
7. 1 - four-speed record player
8. 1 - tape recorder
9. 1 - portable table for tape recorder and record player

JUNIOR HIGH HOME ECONOMICS

If the home is to remain one of the strongest institutions and the basic one to a democratic society, students must receive training in the art of homemaking as a part of their formal schooling and not leave it to an element of chance.

Home economics in the junior high school, consisting of the seventh and eighth grades, is taught as a requirement to all girls. At least one semester each year, alternated with general art, is required in both grades. The basic elements of foods, clothing, and family life are covered. Since this will be the only formal home economics training many of the girls will have due to a tight senior high academic schedule, a broad basic course is taught in the above mentioned areas.

Junior high home economics is also taught with the idea in mind that many of the girls will major in this subject in the senior high school. This will avoid excessive duplication and repetition and make it a continuous and progressive program.

Objectives:

To develop an understanding and basic skills in:

1. Clothing construction
2. Textiles and their care
3. Care and storage of clothes
4. Personal development
5. Manners and good grooming
6. Economics and management in planning meals
7. Health and nutrition
8. Preparation and service of meals that are nutritious, adequate, and attractive
9. Home safety in preparation of foods
10. Family relations

Location:

1. Should be conveniently located to all students in the junior high classroom area.

2. Should be on the first floor for grocery deliveries and disposing of waste materials.

3. Should be in the creative arts area.

FOOD CENTER

Size:

The foods center should be approximately 30' x 50' or about the size of two general purpose classrooms. It will contain a pantry and storage room at one end about 5' x 8' in size.

Built-In Equipment:

1. 6 - Kitchen units, containing 4 electric stoves and 2 gas stoves
2. 1 - Wash basin
3. Washer and dryer outlets - located near the partition wall to the clothing center
4. Refrigerator outlet
5. Dishwasher outlet
6. 8 to 10 ft. chalk board
7. 8 to 10 ft. tack board near chalk board
8. Visual aid type window shades
9. Small windows placed along upper part of outer wall
10. Screens on windows

Other Furniture and Equipment:

1. 1 - metal teachers desk, single pedestal, 30" x 48" plastic top x 29" high, conference type
2. 6 - tables, 36" x 54" x 29"
3. 33 - plain chairs, 17"
4. 1 - book case, 36" x 48" x 9"
5. 1 - file cabinet, legal size
6. 1 - refrigerator, 13 cubic feet

7. 1 - washer

8. 1 - dryer

9. 1 - dishwasher

10. 1 - utility cart, 23½" x 16½" x 29½"

11. Small equipment and accessories

CLOTHING CENTER

Size:

The clothing center should be about 30' x 45' or about 1,300 square ft., the size of one and one-half general purpose classrooms. A fitting room about 5' x 6' should be placed at one end.

Built-In Equipment:

1. 1 - Wash basin near entrance

2. 4 - Double electric outlets for 8 sewing machines along window wall

3. 1 - Double electrical outlet on each end wall near window wall for 4 additional machines

4. 2 - Electric iron outlets, one 15-A at each end of room near corridor wall

5. Chalk board - 12 ft., centered on teaching area

6. Tack board - 12 ft., in two sections preferred

7. Visual aid type shades

8. Small windows placed along upper part of outer wall

Other Furniture and Equipment:

1. 1 - metal teachers desk, single pedestal, 30" x 48" plastic top x 29" high

2. 33 - plain chairs, 17"

3. 8 - sewing machine chairs, 18"

4. 4 - tables with plastic top and glides for tote trays, 42" x 60"

5. 2 - cutting tables, 36" wide x 84" long x 36" high
6. 8 - sewing machines, cabinet type
7. 1 - teachers utility cabinet
8. 2 - wardrobe cabinets
9. 3 - tote tray cabinets with trays
10. 1 - triple mirror
11. 1 - fitting stool
12. 1 - 4 drawer legal file cabinet
13. 1 - book case, 36" x 48" x 9"

JUNIOR HIGH INDUSTRIAL ARTS

Every junior high student in the seventh and eighth grade is required to take at least one semester of industrial arts each year, alternated by semesters with general art. This period will be the only time that many of the students can take industrial arts in their secondary schooling. If the home is to remain one of the strongest institutions and the basic one to a democratic society, students must receive training in crafts to maintain the home and to work in an industrialized society. The junior high program could be called an introduction to Home and Community Crafts.

It is the philosophy of our educational program that it is just as important to train the hands as the mind. The two are closely related and dependent upon each other. Most of the boys will not be financially able to purchase many of the small craft and home beautification services that are needed in daily life. To do many of the small craft type services themselves and use their financial means to purchase the special services will develop a higher standard of living and a greater appreciation for home and community for most of the students in adult life.

Objectives:

Pupils will work with metals, woods, plastics, and other craft materials for the purpose of becoming acquainted with their origin and use. Students will receive instruction in mechanical drawing, wood finishing, art metal, design, model building, furniture making, bench work, sheet metal, metal spinning, wood lathe operation, and metal finishing.

The training will develop the following objectives:

1. APPRECIATION AND USE - To develop in each pupil the appreciation of good design, materials, and workmanship and the ability to select, care for, and use industrial products wisely.

2. SELF REALIZATION AND INITIATIVE - To develop in each pupil the habits of self-reliance and resourcefulness in meeting practical situations.

3. COOPERATIVE ATTITUDES - To develop in each pupil a readiness to assist others and to join in socially accepted group undertakings.

4. HEALTH AND SAFETY - To develop in each pupil desirable attitudes and practices with respect to health and safety.

5. INTEREST IN ACHIEVEMENT - To develop in each pupil a feeling of pride in his ability to do useful things and to develop certain worthy free-time interests, particularly in the crafts.

6. HABIT OF ORDERLY PERFORMANCE - To develop in each pupil the habit of an orderly and efficient performance of any task.

7. DRAWING AND DESIGN - To develop in each pupil an understanding of all kinds of common graphic representations and the ability to express ideas by means of drawings and sketches.

8. SHOP SKILLS AND KNOWLEDGE - To develop in each pupil skill in the use of common tools and machines, and an understanding of the problems involved in common types of construction and repair.

Location:

The industrial arts shops should be located at the far end of the creative arts building or in a separate wing of the main building with the senior high industrial arts. It should be located so that the noise will not disturb other school activities. A first floor or ground floor location is preferred.

Size:

There should be two shops, one for the seventh grade and one for the eighth grade. Each one should be large enough for a class of 32 pupils. The building should contain a minimum of 1,200 to 1,500 square feet of floor space and should be rectangular in shape. The shop should contain handicraft areas for: wood working, metal working, electricity, mechanical drawing, crafts, and some provision in these areas for an instructional area. There should be a small storage room for materials 8' x 12', a project room with shelves about 8' x 10' and a finishing room 8' x 8' with exhaust fan. These rooms should form one end of the shop area.

Built-In Equipment, For Each Shop

1. There should be a minimum number of small windows placed high on one wall.

2. 40 - Student lockers, minimum

3. 2 - Wash sinks, each three feet long placed on end wall near storage room

4. Chalk board - 8' to 10'

5. Tack board - 8' to 10'
6. 2 - Hand tool panels
7. Angle iron racks on one wall in storage room.
8. Shelving in project storage room
9. Exhaust fan in spray hood in finishing room
10. Shelving in finishing room
11. 1 - Work counter in finishing room with easy cleaning top
12. Electric outlets - 110 volts
    a. 2 - lathes in wood working area
    b. 1 for drill press in general area
    c. 1 for bench saw in general area
    d. 1 for electric working table
    e. 1 in metal working area
13. Lights
    a. 50 foot candles of light in mechanical drawing area
    b. 30 to 40 foot candles of light in the other working areas including finishing room
    c. 20 foot candles in materials storage room and project storage room
14. Restroom - in general area for all shops
15. Drinking fountain - in general area for all shops

Other Furniture and Equipment: (For each shop)

1. 1 - crafts table
2. 1 - metal working table
3. 1 - table for teaching electricity
4. 4 - wood benches
5. 4 - light mechanical drawing tables

6. 4 - wood stools, 30"

7. 1 - drill press

8. 1 - bench saw

9. 2 - wood lathes

10. 1 - grinder

11. 1 - wood teachers desk, single pedestal, 30" x 48" plastic top x 29" high, conference type

12. 1 - plain chair, 17"

13. 1 - book case, 36" x 48" x 9"

JUNIOR HIGH SCIENCE

General science in the junior high school has been recently taken out of the core curriculum and taught as a separate subject, exploring the areas of earth science, general science, and biology. The science facilitites for junior high school should include two classrooms for seventh and eighth grade classes in which group laboratory work will be emphasized.

Function:

This area will provide for instruction in a broad pattern of general physical and biological science. Large and small group discussions, teacher demonstrations, and individual and small-group pupil demonstrations will occur in this space. Students will be engaged in such manipulative activities as setting up controls, drawing, making graphs and maps, and cutting and making equipment. The students conduct experiments, build science projects, do planting and potting, prepare biological materials, and prepare cultures. Group projects will be carried on, using pets, fish, and other wild life. Rock collections and classification can be done. Exhibits will be set up.

Special interests will involve some students in explorations in radio, electronics, and nuclear science. The use of filmstrips, films, movie projectors, microprojectors, microscopes, opaque projectors, television, and slides will be frequent.

Location:

The science rooms should probably be together in a central location, closely related to academic areas to minimize pupil traffic. Science rooms should have a southern exposure for a plant center. The south wall should have a large window area where a germinating box on wheels could be placed.

Size:

Classroom: 950-1,000 square feet

Built-In Equipment:

1. Teacher's demonstration desk, 60" x 30" x 36" equipped with water, gas, and electricity, also drawers and storage space.

2. Approximately 20 feet of plastic top counter 38" high by 20" deep with two sinks properly spaced, with cabinets and drawers below, one-half with locks (optional).

3. Chalk board - 16 to 20 feet

4. Tack board - 16 feet

5. Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep for storage and book case

6. Install exhaust fan

7. Audio-visual shades

8. Moisture proof window ledges

Other Furniture and Equipment:

1. 1 - metal teacher's desk, single pedestal, 30" x 48" plastic top x 29" high, conference type

2. 1 - plain chair, 17" with plastic seat and back to match desk

3. 8 - tables, 24" x 54" with book box

4. 32 - plain chairs, 17" (with book rack if tables do not have a book box)

5. 1 - display case with glass doors and locks

6. 1 - metal storage cabinet

7. 4 - sections metal shelving for display

8. 1 - germination box (optional)

SPECIAL EDUCATION

Special education is conducted on an ungraded basis, initiating the individual and group instruction program at the level where the students are in their learning processes. The curriculum is based on a mild liberal arts education, communication training, nature study, and creative arts and crafts work for appreciation and creative expression.

Location:

Should be located in the creative arts area

Size:

The size for classrooms should be the size of a regular classroom, about 750 to 800 square feet, to instruct about 15 to 25 students per class. The class size is partially determined by the level of instruction and the availability of facilities.

Built-In Equipment

1. The room should have one double sink, with 12 to 15 feet of plastic top work counter 38" high by 20" deep, with cabinets and shelving. This should be located in the ceramics and painting area of the room.

2. Electric outlet - 110 volt, for work bench and sewing machine in the crafts area

3. Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep, for storage and book case

4. Chalk board - 16 to 20 feet

5. Tack board - 16 feet

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type

2. 1 - plain chair, 17", to match desk

3. 10-15 - plain chairs 17"

4. 15-20 - chairdesks, 17" with plastic tops

5. 2 - tables, 30" x 72" plastic top, adjustable height

6. 1 - art table, 42" x 60" plastic top, 29" high
7. 1 - light duty shop bench with two vises
8. 1 - metal storage cabinet with lock
9. 2 - book cases, 36" x 48"
10. 2 - sections of metal shelving

STANDARD CLASSROOM

The standard classroom will be used for instruction in the core program, mathematics, and other subjects of a general nature. There should be about 14 to 16 of these rooms in the junior high building. The windows should be small in size and placed on the upper part of the outer classroom wall.

Location:

The standard classroom should be located in the area close to the library and close to other study areas in the quiet part of the building.

Size:

1. The classroom should have space for 30 to 32 pupils. It should be about 25 feet by 32 feet or a total area of 800 square feet.

2. The short axis of the room should be parallel to the corridor for maximum corridor utilization.

3. A small common area may be constructed between each two classrooms, about 120 to 150 square feet, to be used as a conference room, committee workroom, materials center, and storage room. This will not be constructed if a common materials center room is constructed for each eight to ten standard classrooms.

Built-In Equipment:

1. Chalk board - about 24 lineal feet, centered on long axis wall of classroom for core classrooms. For about two classrooms for teaching general mathematics (not TV classes), it should be increased to 30 lineal feet. One-half of one end wall should be removeable chalk board.

2. Tack board - about 20 lineal feet placed on side or rear wall. For about two classrooms for teaching general math, it should be decreased to 16 lineal feet. One-half of one end wall should be removeable tack board.

3. Map rail - placed above chalk board

4. Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep, for storage and book case

Other Furniture and Equipment:

1. 1 - metal teacher's desk, single pedestal, 30" x 48" plastic top x 29" high, conference type

2. 1 - plain chair, 17", to match desk

3. 1 - utility table, 30" x 72", adjustable height

4. 4 - plain chair. 17"

5. 32 - chairdesks, 17" with plastic tops

6. 1 - book case, 36" x 48" x 9", with three adjustable shelves

7. 1 - two drawer file cabinets to match teacher's desk

8. 1 - map rack with 8 maps

MATERIALS CENTER ROOM

This room may not be constructed if common areas are provided between each two standard classrooms.

Location:

Conveniently located for each eight to ten standard classrooms.

Size:

About 3/4 to full size of the standard classroom or 600 square feet.

Built-In Equipment:

1. Shelving and cabinets for storage

Other Furniture and Equipment:

1. 1 - work table, 30" x 72", plastic top, adjustable height
2. 4 - plain chairs, 17"
3. 1 - projector cart with casters
4. 1 - motion picture machine
5. 1 - filmstrip machine
6. 1 - overhead projector
7. 1 - portable screen, 3' x 4'
8. 1 - book cart with casters

TV CLASSROOM

If the school system has only one telecast system for secondary schools, the TV room can be a common room for both junior and senior high. Only seventh and eighth grade mathematics are now taught by TV in the junior high school.

Location:

If it is a common TV area for both junior high and senior high, it should be located in the quiet area conveniently to both schools. If there is a separate junior high TV room, it should be located in the quiet area of the junior high school and conveniently to all departments in the junior high. It should be a one story room or placed on the second floor of a two story building so that the antenna on the roof will be close to the sets for better reception.

Size:

The area should accommodate about 200 to 225 students. The area should be auditorium or trapezoidal in shape, 55' x 80' with storage and work room on one side and TV teachers, TV aids, and conference area on the other side of TV room to square up the area. If a rectangular shape is desired, the area should be about 60' x 75'.

Built-In Equipment:

1. Chalk board - 16 feet placed center of classroom

2. Tack board - 1 section, 8 to 10 feet long for each teacher using the area

3. Projection screen - 6' x 8' fastened to center part of front wall over chalk board or suspended from ceiling near the front and center of room

4. Lights - classroom lighting, minimum 40 candle power, each row of lights individually controlled. The section of lights near each TV set should be lightly tilted away from set.

5. Electric panel - near teacher's office or work room

6. Sound cable - run to the TV set that is nearest the panel by the teacher's work room

7. Antenna - on roof of TV room if possible to improve reception and reduce building interference

8. TV outlets - one for each 30 students, placed for maximum viewing

9. Microphones - outlets for teacher at the front of the room and two stations for students in floor at two well spaced locations

10. Amplifier - separate one to accommodate the TV area, connected to speakers in TV room

11. Speakers - 4 to 6 well placed

Other Furniture and Equipment:

1. 200 to 225 chairdesks

2. 1 - wall mount or TV stand 4' high for each TV set

3. 1 - overhead projector

4. 1 - overhead projector cart on casters

5. 1 - filmstrip machine

6. 1 - projection table on casters for filmstrip machine

7. 1 - microphone on stand (2 more for student use if needed)

TV WORK AND CONFERENCE ROOMS

The TV teachers and TV aids should have two separate rooms or a combined office area of 12' x 30' or 360 square feet. There should be two conference areas of about 360 square feet of floor space.

Built-In Equipment:

1. 1 - Chalk board - 8 foot section in each conference room

2. Tack board

   a. 1 - 10 to 12 foot long on rear wall of TV aids room

   b. 1 - 10 to 12 foot long on front wall of teacher's work room

   c. 1 - 8 foot long in each conference room

3. Electric outlets - 4 for TV aids' typing desks

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4. 1 - 8 foot section of work cabinet, counter height, with plastic top, sink, and shelving. This should be placed on end wall in TV aids' work room.

Other Furniture and Equipment:

1. 1 - double pedestal typing desk for each TV aid. This can be one-half typing desks and one-half teachers desks.

2. 1 - swivel type typists chair for each TV aid

3. 1 - metal teacher's desk with 30" x 48" plastic top, single pedestal, for each TV teacher

4. 1 - plain chair, 17", to match each teachers' desk

5. 1 - 4 drawer file cabinet, letter size, for each teacher

6. 1 - book case, 36" x 48" x 9" for each teacher

7. 1 - section metal shelving, 36" wide x 12" deep x 87" high, for each teacher

8. 1 - table, 30" x 72", adjustable height, for each conference room

9. 6 - plain chairs, 17" for each conference room

READING ROOM

Clinical reading classes are conducted in small groups, 12 to 15 with emphasis on individual corrective work. For that reason, the classes must be small in numbers and the course must be clinical in nature. Rapid reading classes are conducted in groups of 15 to 20 students.

Location:

In the academic area with the oversized rooms or adjacent to materials center room or storage room that is less in size than a regular general purpose room.

Size:

The room should be one-half to three-fourths of a general purpose classroom in size. The area can be used to balance out two bays with an oversized classroom that uses over one bay.

Built-In Equipment:

1. Chalk board - 16 feet, placed center on the classroom
2. Tack board - 12 feet placed on wall adjacent to chalk board

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type
2. 1 - plain chair, 17" to match desk
3. 2 - tables, 30" x 72" plastic top, 29" high
4. 10 to 12 - plain chairs, 17"
5. 1 - metal storage cabinet
6. 1 - book case, 36" x 48" x 9"
7. 12 to 15 - reading machines, for speed reading only

FACILITIES FOR HEALTH, PHYSICAL EDUCATION, RECREATION, AND ATHLETICS

Adequate school facilities are necessary if schools are to meet the challenges of the modern day school curriculum. It is necessary that planners of school plants keep in mind the function of various phases of the curriculum. In physical education the major functions commonly accepted are to promote the health and physical development of the pupils by engaging in useful physical skills, socially useful practice, and wholesome physical recreation. To attain these objectives, the pupils must participate in a great variety of physical acitivities. This makes it important to give proper attention to site selection, indoor facilities, and outdoor areas. Health, physical education, recreation, and athletics are all a part of one large curriculum area and should be considered as one area in planning and developing the facilities.

The junior high school program in physical education, recreation, and athletics is broad and varied, thereby requiring extensive indoor and outdoor facilities. It is important that these needs be considered during site selection. Inter-school athletics are not permitted in junior high in our school system. Athletics are a part of the physical education and inter-class athletic program.

If, for economy reasons only one physical education facility is constructed for the total school, it should be constructed as the common P.E. and athletic facility which should be conveniently located to both junior and senior high school. If possible, a junior high gymnasium should be constructed for physical education, gymnastics, and intra-mural sports as a separate building from the senior high physical education facility.

The junior high facility should contain a junior high basketball size court, 24 feet high ceiling, physical education equipment, and may be limited dressing facilities, but would not contain any built-in seating. Class activities will include all forms and varieties of vigorous physical movement, including stunts and tumbling, rhythmic activities, individual and dual sports, and team games and sports.

Location:

1. Located on the ground level and accessible to outside activity areas. It should have a ramp up to floor level to roll in equipment.

2. If a separate junior high P.E. building is constructed, locate it at the end of the creative arts area, farthest from the academic area of the junior high school.

3. Available from parking areas for after school use.

4. The junior high dressing rooms, whether in the combination junior-senior high physical education facilities or in a separate junior high physical education facility, should have doors leading directly to outside play areas.

Size:

1. Floor area should be 50' x 86' with the outside lines at least 6' from any wall or object.

2. If the physical education program is to be extended to the upper three grades in the senior high school, the junior high gym floor should be large enough for 2 cross-court junior size basketball courts.

3. The junior high gymnasium would need physical education offices, dressing, and shower facilities if it is to be a complete separate facility.

Storage:

If the junior high gym is a limited facility to supplement the large physical education facility, it should contain only enough storage space for the equipment to perform the activities to be conducted in it.

Dressing Rooms:

If the senior high school extends physical education into the upper grades, the junior high physical education building should have similar physical education offices, dressing rooms, and shower facilities. Otherwise, the junior high students will dress and shower in the main physical education facility. The two gyms will be used interchangeably between the boys and girls by coordinating their activities.

Built-In Equipment:

1. Shelving in both athletic storage rooms.

2. 6 - Mat hangers on one end of gym near dressing rooms.

3. Climbing rope near opposite end of gym from dressing rooms.

4. Chinning bar at one end, near climbing rope.

5. 2 - Mouth rinse fountains on one end of gym near dressing rooms.

6. Receptacles in the gym floor for standards.

PART III

SENIOR HIGH SCHOOL

SENIOR HIGH PROGRAM AND ORGANIZATION

A county wide study committee composed of business, professional people, and representatives of other groups in the school districts made a thorough study of the school system to determine the size of the school enrollment and the type of organization of each of the secondary schools. This study concluded that a school enrollment of 2,000 to 2,300 in the upper six grades was the optimum school size for the type of instructional program and financial structure of the district. This committee also concluded that the school should be operated as a junior high division for the seventh and eighth grade and a senior high division for the upper four grades. Each division would have separate administrative personnel with the senior high principal being responsible for the entire school.

A pioneering trend in school planning is reflected in the design of the new junior-senior high school. This plan of organization permits smaller schools to operate within a larger school for better administration, supervision, and counseling. This school system has three reorganized schools and one new school in operation on this plan. Two more similar high schools are in the planning stage.

When the school building is being planned, emphasis should be on implementing the school curriculum and also on the manipulation of space and personnel. The planners believe that teachers are not the same, students are not identical, and that educational gains can be derived from a design philosophy which promotes flexibility of class size, places more emphasis on the true professional value of teachers, and allows more individual responsibility on the part of students.

The academic area of the senior high school is housed in a two or three story building to create a compact structure for maximum economy in construction of the building and also, operation of the school plant. The senior high division of the school will accommodate approximately 1,400 to 1,500 students in the upper four grades.

The senior high division will have a separate entrance and will be adjacent to the common areas with the junior high division. The common areas are: library, lunchroom, large TV classroom, industrial arts area, band room, and heating plant. The senior high division contains the senior high offices, approximately 30 general purpose classrooms, and approximately 20 special type classrooms, mostly the technical laboratory type. The physical education building will be a common area for the junior high and senior high, unless a junior high physical education building is constructed.

The curriculum is very broad with courses ranging from special education for the slow learners to the advance program for students with superior ability and achievement. This program of instruction is organized into different levels of learning so that the groups will be as homogenous as possible for maximum effective instruction.

Most of the regular classes or ninth grade general science, the tenth grade english, and eleventh grade social studies or American history, are taught in large TV classes of approximately 200 students. The common TV area is also used for seventh and eighth grade TV mathematics. A liberal arts curriculum that provides instruction for citizenship, basic communication, and health is offered and required for all students in the senior high division. Special courses are offered for students planning to enter the labor market or enter trade school upon graduation or termination of their formal education. A very comprehensive college preparation program is provided for students who plan to go to college for more advanced schooling.

SENIOR HIGH OFFICES

The senior high office area should serve as the administrative headquarters for all administrative action, secretarial services, communications, conferences, office for visiting teachers, teachers work center, school health center, and the center for community activities. The office area should be designed for efficient use of spaces and operation of the school. The furniture and equipment must reflect a business character and contribute to maximum function of the area.

Location:

1. On the ground floor at the entrance to the senior high building

2. Should be located adjacent to the common areas of the senior high and junior high, with easy access to the junior high offices for maximum coordination of administrative matters of both schools by the senior high principal who is in charge of the total school program.

PRINCIPAL'S OFFICE

Location:

Located in one corner of the administrative area with access to the general clerks area and also an exit to other areas of the school.

Size:

10' x 15'

Built-In Equipment:

1. 1 - wardrobe closet with storage

2. 1 - outside phone

3. 1 - inter-com phone

4. 1 - program clock for ringing bells

Other Furniture and Equipment:

1. 1 - double pedestal desk with plastic top, 34" x 72", conference type

2. 1 - swivel chair

3. 1 - settee, 2 place

4. 2 - side chairs

5. 1 - utility table, 30" x 72"

6. 1 - double book case 60" wide x 36" high x 9" deep

OFFICE SECRETARY

This secretary performs all administrative secretarial duties and bookkeeping for the entire school.

Location:

Should be located between the principal's and assistant principal's office.

Size:

10' x 12'

Built-In Equipment:

1. Outlet for outside phone

2. Inter-com phone

Other Furniture and Equipment:

1. 1 - secretary's desk, 34" x 60" with plastic top, left pedestal

2. 1 - typist chair

3. 1 - typewriter, manual or electric

4. 1 - four drawer file cabinet, letter size

5. 1 - adding machine

6. 1 - book case, 36" x 36" x 9"

ASSISTANT PRINCIPAL

Location:

Located near the general office and adjacent to the office secretary

Size:

11' x 14'

Built-In Equipment:

1. Tack board - 3' x 6'
2. Outlet for outside phone
3. Inter-com phone

Other Furniture and Equipment:

1. 1 - executive desk, 34" x 60"
2. 1 - swivel chair
3. 1 - table, 30" x 60"
4. 2 - plain chairs, 17"
5. 1 - file cabinet, letter size without lock
6. 1 - bookcase, 48" x 60" x 9"

CONFERENCE ROOM

This room will be used for school conferences, P.T.A. officers' meetings and other small group conferences. If a conference room is not provided for the counselors, this room will be used for small group counseling activities.

Location:

Should be located near the general office or between the administrative offices and counseling offices.

Size:

15' x 20'

Built-In Equipment:

1. Chalk board - 4' x 8'
2. Tack board - 4' x 8'

Other Furniture and Equipment:

1. 2 - tables, 30" x 72"
2. 12 - plain chairs, 17"

GENERAL OFFICE AND WAITING ROOM

This area will serve as the administrative center of the school for students and as a reception area for the public.

Location:

It will be located conveniently for entrance by students from the classroom area and also for visitors entering from the parking lot.

Size:

18' x 20' for administrative offices only. If it serves as a combination area for administration and counseling offices, it should be 20' x 30'.

Built-In Equipment:

1. 1 - 12 ft. counter with entrance gate
2. 1 - Outside telephone with extension
3. 1 - Telephone closet for public phone
4. 1 - Inter-com phone
5. Electrical outlets for 2 secretarial desks

Other Furniture and Equipment:

1. 1 - secretarial desk, 34" x 60" with plastic top, left pedestal

2. 1 - typist chair

3. 8 - plain chairs, 17" for waiting area (4 for administration and 4 for counseling)

4. 1 - four drawer file cabinet, letter size

5. 1 - typewriter, manual or electric

6. 1 - adding machine

7. 1 - printing calculator

8. 1 - electric wall clock

VAULT

Location:

Located in general clerk's area with vault door showing from corridor

Size:

8' x 10'

Built-In Equipment:

1. Combination lock on door
2. Built-in shelving
3. Key case for 250 keys

MAIL, MIMEOGRAPH, AND RECEIVING ROOM

Location:

It should be located between the general office and teachers lounge with entrance from general office and also entrance from corridor. It should be convenient to receiving packages. If the teachers have a work area connected with the teacher's lounge, there should not be any corridor entrance to the mail and mimeograph room.

Size:

15' x 20'

Built-In Equipment:

1. 1 - Work counter, 8' x 10' long with plastic top and a sink at one end
2. 1 - Section of 60 mailboxes built in corridor wall
3. Some shelving 12" deep and some 24" deep offset shelving

Other Furniture and Equipment:

1. 1 - table, 30" x 72" with plastic top
2. 4 - plain chairs, 17"
3. 1 - metal storage cabinet
4. 1 - spirit duplicator
5. 1 - mimeograph or printing machine

TEACHERS' WORKROOM

This room should be used by teachers during their planning period as a central office and workroom.

Location:

Should be located between mail and mimeograph room and connected to the teachers lounge

Size:

One-half the size of a classroom or 12' x 32'

Built-In Equipment:

1. Chalk board - 8 ft. section
2. Tack board - 8 ft. section
3. 1 - Restroom with basin and commode
4. Exhaust fan in restroom

Other Furniture and Equipment:

1. 1 - electric wall clock

2. 2 - tables, 30" x 72" with plastic top
3. 8 - plain chairs, 17"
4. 1 - manual typewriter
5. 1 - typing table
6. 1 - adding machine

TEACHERS' LOUNGE

Location:

It should be located between the classroom area and the mimeograph room, with door entering from main corridor.

Size:

One-half the size of a classroom or 12' x 32'

Built-In Equipment:

1. 1 - Restroom with wash basin and commode
2. Exhaust fan in restroom
3. 1 - Tack board, 3' x 6', placed near entrance

Other Furniture and Equipment:

1. 1 - electric wall clock
2. 1 - checkerette
3. Furniture to be furnished by P.T.A. as a special project.

ATHLETIC DIRECTOR AND VISITING TEACHERS' OFFICE

This office will be used by the visiting teacher in the morning for checking and counseling with students on attendance problems. It will be used by the athletic director in the afternoon who instructs classes in the morning.

Location:

Should be located between the office area and classroom area

Size:

12' x 14'

Built-In Equipment:

1. 1 - Tack board, 4' x 8'

Other Furniture and Equipment:

1. 2 - executive desks, double pedestal, 34" x 60"
2. 2 - swivel chairs
3. 1 - table, 30" x 72"
4. 4 - plain chairs, 17"

BOOKSTORE

Location:

Should be located outside the office area and near the lunchroom where the students assemble before classes begin in the morning

Size:

25' x 32'

Built-In Equipment:

1. 1 - Counter
2. Shelving for supplies
3. Entrance and exit lanes for students, two doors

LOST AND FOUND

This area can be used for lost and found articles, ticket sales, and other similar uses.

Location:

It should be located at the edge of the office area and near the lunchroom to be convenient for the students to reclaim lost articles and puchase tickets for the various school activities before school and during the lunch period.

Size:

5' x 8' or 6' x 6'

Built-In Equipment:

1. Shelving on one side and clothes rack on the other side

2. Dutch door

COUNSELING AREA

The counseling area should have an entrance and waiting room separate from the administrative area. The counseling area can be located between the administrative area and the classroom area with an entrance from the corridor. This will minimize the traffic and confusion in the administrative area. It could be paired with the administrative area with a common waiting room. There should be office space for a waiting area with a records clerk, a records storage room, and offices for one counselor for each 400 to 600 students in the senior high division.

RECEPTION ROOM AND RECORDS CLERK

This area should have seating space for 6 to 8 students, a browsing area for students, and space for the records clerk who also acts as receptionist for the students to be counseled.

Location:

Located to receive the students as they enter the counseling area and also centrally located for all counselors.

Size:

12' x 14' if there is a common sitting room for both administrative and counseling areas. It should be 12' x 16' if the counseling area has a separate entrance from corridor.

Built-In Equipment:

1. 1 - Tack board, 4' x 8'

Other Furniture and Equipment:

1. 1 - double pedestal desk, 34" x 60" with plastic top, with typing arm

2. 1 - swivel chair

3. 6 - plain chairs, 17"

4. 1 - display rack

5. 1 - typewriter, manual or electric

RECORDS ROOM

Location:

Located to the end of the records clerk's room and should not have any outside windows

Size:

6' x 8'

Built-In Equipment:

1. 1 - Work counter 40" high with sink

2. Shelving

Other Furniture and Equipment:

1. 1 - photo copy machine

2. 1 - 12 tray Kardex with portable stands for each counselor

COUNSELORS

There should be one boys' and one girls' counselor and one counselor for a combination of the two groups for 1,500 students.

Location:

Located to the rear of the records clerk and on the outside wall with outside windows

Size:

10' x 12'

Built-In Equipment:

1. Outlets for outside phone and inter-com

2. 1 - Tack board, 3' x 6' centered on partition wall nearest the entrance

Other Furniture and Equipment:

1. 1 - double pedestal desk, 34" x 60" with plastic top, conference type

2. 1 - swivel chair

3. 3 - plain chairs, 17"

4. 1 - four drawer file cabinet with lock

5. 1 - combination storage cabinet

6. 1 - bookcase, 36" wide x 48" high x 9" deep with three adjustable shelves

CONFERENCE ROOM

The counseling area may use the conference room in the administrative area for small conferences or have one in this area similar in size to the administrative conference room.

CLINICAL AND TESTING AREA

The special testing and clinical work is performed by the central office staff at the central administration building.

HEALTH ROOMS

Location:

Should be located in the counseling area for supervision by that department but near the administrative area

Size:

Health rooms - 8' x 12' each, boys and girls

Restrooms - 4' x 5' each, located between two health rooms

Built-In Equipment:

1. Restrooms
    - a. 1 - commode for each
    - b. 1 - wash basin for each
    - c. Ventilation system for both

Other Furniture and Equipment:

1. 2 - cots each
2. 1 - first aid cabinet each

CLERK'S STORAGE ROOM

Location:

Near the general clerk and office

Size:

5' x 7'

Built-In Equipment:

1. Shelving

RESTROOM FACILITIES

Location:

There should be one general restroom for girls and one for boys on each floor. They should be as conveniently located as possible to the classroom area but also convenient to students passing to and from the lunchroom.

Size:

1. Girls - 16' x 32'
2. Boys - 12' x 32'

Built-In Equipment:

1. Girls
    - a. 4 - wash basins
    - b. 4 - mirrors
    - c. 10 - commodes - partitioned with door opening in
    - d. 1 - sanitary machine
2. Boys
    - a. 4 - wash basins
    - b. 4 - mirrors
    - c. 2 - urinals, each 4' x 5' long
    - d. 5 - commodes

SENIOR HIGH ART

Objectives:

1. To acquaint the student with a new form of expression

2. To develop art as a vision language

3. To develop awareness of art

4. To develop appreciation of the beauty of art

5. To develop creative thinking

6. Helps the student recognize personal self realization

7. Helps students to reflect interpretation of and personal involvement with experiences

8. Helps to reflect the diverse feelings and interpretation of youth living in a free society

9. To help students understand the function of art in the development of civilization

Location:

Should be located on the first floor in the manipulative skills area and adjacent to the industrial arts and home economics departments. It should also have an outside entrance near the parking areas or open out on a patio for outside painting if desirable.

Space Requirements:

The secondary school should provide 50 square feet of working space per pupil in the self-contained art classroom. Since the State recognizes 30 students in average daily membership as a classroom unit, the art room must provide pupil working space not less than 30 feet in width and approximately 50 feet long or a total of 1,500 square feet per room, exclusive of the storage room.

In the self-contained art room, the room will be divided into areas such as: ceramics, crafts, studio painting, and general purpose. If the student rotation plan of team teaching is used, each room will be equipped as a special room such as: ceramics room, crafts room, studio painting room, and a room for any other well developed area of the art program.

All services such as electrical power (sufficient for kilns, power tools, etc.), gas, if desired, and hot and cold water should be installed in each art room. Two double sinks, island type, equipped with plaster traps should be located in two separate work areas in each room.

Built-In Equipment:

1. 1 - Metal teacher's combination cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

2. 2 - Sections chalk board 8 feet long spaced at 2 separate places in room

3. Tack board

   a. 1 section on wall to a height of 7 feet

   b. cover other spaces with as much as possible 4' wide

4. Wall cabinet storage space for students' paintings and sketches

5. About 20 feet work counter 40" high with plastic top and equipped with shelves and drawers

6. Two double sinks, one island type in ceramics area and one island type near painting area. One basin type sink for enameling may be substituted for one of the double sinks.

7. One electric outlet 220 volts 60 amp. service for kiln in the ceramics corner

8. Install a ventilation system to control smells of paint and other strong odors.

9. Install room lighting on two separate switches, with some provision for special lighting effects as optional fixtures.

10. Small spray booth for glazing (optional)

11. Enameling station (optional)

12. Special treatment of counter and floor near sinks and enameling station (optional)

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type

2. 1 - plain chair, 17", to match desk

3. 32 - plain chairs, 17"
4. 6 - tables, 36" x 60" with plastic top
5. 2 - double face easels
6. 1 - work bench, 30" x 60", 2 vises (optional)
7. 1 - metal storage cabinet, supplies
8. 2 - paper storage cabinets (optional)
9. 1 - potters wheel bench
10. 1 - clay cart
11. 1 - ladder 48" (storage room)
12. 2 to 3 sections of metal shelving for clay displays
13. 1 - ceramic kiln, 200 volts, 60 amp.
14. 1 - enameling kiln (optional)

ART STORAGE ROOMS

The storage space should allow a minimum of four square feet per student anticipated in the program. This does not include storage within the room for student in-progress projects and student supplies.

COMMON ART STORAGE ROOM

A common windowless walk-in art storage room should be used for storage of common supplies and equipment and to store students' work retained for exhibit purposes.

Location:

Should be placed between the two art classrooms with doors opening from each room

Size:

About 8' x 16'

Built-In Equipment:

1. 24" deep offset type shelving on part of wall space
2. 12" deep or 24" deep offset type on all other wall space

INDIVIDUAL ART STORAGE ROOM

Two small individual art storage rooms should be built for art supplies for each art classroom.

Location:

Between the two art classrooms and on each end of the common art storage room to complete the space

Size:

About 8' x 6'

Built-In Equipment:

1. 24" deep offset shelving on one wall
2. 12" deep shelving on other walls

BUSINESS EDUCATION

The business education department offers courses to meet the needs of three groups of studnets: (1) those who plan to take jobs upon high school graduation; (2) those who plan to enter advanced commercial training; and (3) those who plan to enter college.

The business education department should contain three or four laboratory-classrooms. Rooms should be provided for typing, bookkeeping, shorthand, office practice, and general business. The business department will probably be built in the final phase of the senior high school.

Location:

The business education department should be located on the upper floor at the end of one wing of the building.

TYPING

All students will find a course in typing helpful, whether they plan to work after graduation or further their educations. It serves as an aid in obtaining a job as most businesses prefer someone with this skill. Also, it is easier for college students if they can type their own lessons and reports.

Students are taught to type by the touch method, to use the service features of the typewriter, to change ribbons, clean machines, and help maintain them.

Location:

Located on the far end of the business education department away from other academic classrooms to reduce the interference caused by the noise of the typewriters. If there are two typing rooms, the advanced typing room should be near the office practice room.

Size:

32' x 34' for 40 typing tables

Built-In Equipment:

1. Chalk board - 16 feet, centered at the front of the room

2. Tack board - 16 feet, placed on corridor wall

3. Electrical outlets may need to be planned for electric typewriters to be added in the future.

4. 50 foot candle power of lighting

5. A sink should be placed in the typing room if a conference and work room is not planned for the business education department.

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29", single pedestal, conference type

2. 1 - plain chair, 17" to match teacher's desk

3. 40 - typing tables, 24" x 32" with plastic top, adjustable height

4. 40 - plain chairs, 17" with book rack

5. 1 - bookcase, 36" wide x 48" high x 9" deep

6. 1 - metal storage cabinet

7. 1 - table, 30" x 72" with plastic top, adjustable height

8. 40 - typewriters, either manual or electric

9. 1 - spirit duplicator, if machines room is deleted

10. 1 - mimeograph machine, if machines room is deleted

OFFICE PRACTICE

The areas to be covered in office practice include shorthand, transcription, and office filing.

Location:

The office practice room should be located adjacent to either the advanced typing room or the bookkeeping room. They may have a common room placed between them about 1/2 or 3/4 the size of a regular classroom, for a combination machines and conference room. If the typing room is to be used for transcription in lieu of furnishing typewriters in the office practice room, an observation window should be placed in the partition wall between them.

Size:

32' x 34'

Built-In Equipment:

1. 1 - Metal combination cabinet, 66" wide x 66" high x 15" deep, for storage and bookcase

2. 1 - Chalk board - 16 feet, centered at the front of the room

3. 1 - Tack board - 16 feet, placed on corridor wall

4. Electrical outlets may need to be stubbed in for future electric typewriters for transcription.

5. 50 foot candle power of lighting

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29", single pedestal, conference type

2. 1 - plain chair, 17" to match desk

3. 18 to 20 - two student tables, 24" x 48" or individual tables 36 to 40, 24" x 32"

4. 40 - plain chairs, 17" with book rack

5. 1 - table, 30" x 72" with plastic top, adjustable height

6. 1 - dictating machine (optional)

7. 12 - typewriter, manual or electric may be added for transcription work

BOOKKEEPING

Location:

May be located adjacent to the office practice room with a common machines room between them or may be the first room as you enter the business education department.

Size:

32' x 34'

Built-In Equipment:

1. 1 - Metal combination cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

2. 1 - Chalk board - 16 feet, centered at the front of the room

3. 1 - Tack board - 16 feet, placed on corridor wall

Other Furniture and Equipment:

1. 1 - teacher's desk, 30" x 48" plastic top x 29", single pedestal, conference type

2. 1 - plain chair, 17" to match desk

3. 18 to 20 - two student tables, 24" x 48" plastic top, adjustable height or 36 to 40 individual tables, 24" x 32" plastic top, adjustable height

4. 36 to 40 - plain chairs, 17" with book rack

5. 1 - table, 30" x 32" plastic top, adjustable height

6. 1 - adding machine

MACHINES ROOM

As of the present time, the business machines course is taught as an advanced unit in either advanced typing, office practice, or bookkeeping. This room is very optional and may not be constructed in many high schools.

Location:

It should be a small room located between either the office practice room and the advanced typing or bookkeeping room. There should be doors to enter from the two adjacent rooms. The front section of the room can be used as a combination materials center, conference, and work room. The rear section of the room should be used as the machines section.

Size:

1/2 to 3/4 the size of a standard classroom or 400-500 square feet

Built-In Equipment:

1. Built-in work cabinets 10 feet long and 40" high with sink near corner of room
2. Electrical outlets for 15 to 20 machines
3. Chalk board - 8 feet on conference end of room
4. Tack board - 8 feet on conference end of room

Other Furniture and Equipment:

1. 15-20 - business machines
2. 1 - small table for each machine
3. 1 - plain chair, 17" for each table
4. 1 - conference table, 30" x 72" plastic top, adjustable height
5. 4 - plain chairs, 17", for conference table
6. 1 - spirit duplicator
7. 1 - mimeograph machine

GENERAL BUSINESS CLASSES

The classes for business english, general business, business law, business arithmatic, and distributive education are taught in standard classrooms, furnished with standard furniture and equipment. They may even be taught in another related department by teachers in those departments.

FOREIGN LANGUAGES

Today's technological advances continue to shrink the size of the world in which we live. As our globe contracts and our viewpoints broaden to embrace the common denominator interests and problems confronting mankind, our need for an understanding of other languages becomes boldly apparent.

An understanding of the language, culture, and civilization of another country is essential to the efforts being made to improve international communications. Through the present four-fold teaching approach; hearing, speaking, reading and writing, a foreign language can become an invaluable tool in furthering the aims of those concerned with the improvement of international relations and development of intercultural appreciation.

As the student becomes aware of another language, he develops an increased appreciation of values not necessarily found in his own environment. His recognition of the world's need and desire for unity, his knowledge of the value of the individual, and his acquisition of a cross-cultural viewpoint broadens the possibility of understanding and cooperation in a world of differing ideologies.

While man has long dreamed of a common language, little has been achieved. While a universal language remains a highly desirable goal, it is far from achievement . . . and the gravity of today's international tensions will not wait for its solution. It then becomes abundantly clear that we must take uncommon steps to meet an uncommon situation.

FOREIGN LANGUAGE CLASSROOM

Location:

The foreign language department should be located in the academic area of the building on one of the upper floors. The rooms for foreign language should be grouped together to create a departmental feeling. If a separate language laboratory is used, it should be located conveniently to all foreign language classrooms.

If a language laboratory is not used, the rooms should be arranged in pairs with a common recording, listening, and storage room between them, with an entrance door to each room. If several rooms are involved, locate them on either side of hallway rather than all on one side.

Size:

A. If there is no foreign language laboratory, the classroom should be 25' x 32' or approximately 800 square feet.

B. With a language laboratory the foreign language classrooms should be slightly larger than the standard classroom to accommodate one-half of the space for the recording and storage room common to both classrooms.

Built-In Equipment:

1. Metal combination cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

2. Chalk board - approximately 30 feet, centered on long axis wall at the front of the classroom

3. The corridor wall should have 10 feet of removable chalk board and 10 feet removable tack board.

4. Shelving along window wall, slightly below window sill level

5. Small windows placed across the upper part of the wall with general purpose shades.

6. Brackets over chalk board for hanging maps, charts, exhibits, movie screens, etc.

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29", single pedestal, conference type

2. 1 - plain chair, 17" to match teacher's desk

3. 1 - utility table, 30" x 72" plastic top, adjustable height

4. 4 - plain chairs, 17"

5. 32 - chairdesks, 17" with plastic covered arm

6. 1 - bookcase, 36" x 48" x 9" with 3 adjustable shelves

RECORDING, LISTENING AND STORAGE ROOM

Location:

Located at the rear of and between two classrooms with doors from each one

Size:

Approximately 8' x 10'

Built-In Equipment:

1. Sound proof ceiling and walls
2. 2 - Double electric outlets
3. 2 - Work tables placed in opposite front corners
4. 3 - Sections metal shelving 18" deep, 87" high
5. If budgeting or design problems prohibit the construction of a separate language laboratory, the following suggestions are made:

a. Assign portable audio-visual equipment to the foreign languages for use in foreign language classrooms only.

b. This audio-visual equipment is not to be removed from or stored elsewhere other than in the foreign language area.

c. Foreign language teachers will be responsible for maintenance and storage of audio-visual equipment.

LANGUAGE LABORATORY

The development of the language laboratory presupposes that learning to speak and understand the language is an important objective of modern foreign language study. Although, variously expressed, two assumptions underlie all the statements relating to the laboratory's purpose: (1) that systematic aural-oral practice is indispensable in learning to speak a modern foreign language, and (2) that the conventional classroom does not provide adequately for such practice.

The language laboratory should be large enough to contain a recording room.

Location:

Should be centrally located for all foreign language classrooms

Size:

Approximately 1½ the size of a standard classroom and as square in shape as possible.

Built-In Equipment:

1. Chalk board - approximately 16 feet, placed on front wall

2. Tack board - 1 section 8 feet long, placed prominently near the entrance

3. 1 - Console placed at the front-center of laboratory

4. 24 to 32 Individual listening booths, 2' x 2', completely equipped

5. The room should be acoustically treated so as to approach a dead room from a reverberation standpoint.

RECORDING ROOM

Location:

Should be located on the corridor wall with entrance from the room only

Size:

Approximately 8' x 10'

Built-In Equipment:

1. Observation window across the front 30" from floor.

2. Work tables with plastic tops and built-in shelves across the front and across one end of the room.

3. Metal lockers that can be locked, placed at one end of work table.

4. Tack board - 1 small section on the end by the door

5. Shelving across the back 18" deep, 87" high.

6. 3 Double electric outlets, 2 under tables and 1 on the end opposite the door.

SENIOR HIGH HOME ECONOMICS

If the home is to remain one of the strongest institutions and the basic one to a democratic society, students must receive training in the art of homemaking as a part of their formal schooling and not leave it to an element of chance. For home economics teaching to be effective, students must have the opportunity to practice in their everyday life what they are learning in school.

The stigma attached to homemaking of the past has no place in a modern society. Students must have the privilege of taking home economics in a classroom-laboratory equipped with mechanical equipment to teach home economics to prepare young girls for mechanized homemaking.

Home economics is not required in the senior high school curriculum, but a four-year elective course is offered in either a vocational or a non-vocational program. The basic elements of foods, clothing, and family life are covered. Since this will be the only formal home economics training many of the girls will receive due to a tight senior high academic schedule, a broad basic course is taught in the above mentioned areas.

This area should include a foods laboratory, clothing laboratory, and a multi-purpose room for demonstrating various areas of the home: kitchen, dining room, living room, and laundry room.

Objectives:

To develop an understanding and basic skills in:

1. Clothing construction
2. Textiles and their care
3. Care and storage of clothes
4. Personal development
5. Manner and good grooming
6. Economics and management in planning meals
7. Health and nutrition
8. Preparation and serving of meals that are nutritious, adequate, and attractive
9. Home safety in preparation of foods
10. Family relations

Location:

Locate the home economics department in the creative arts area or wing of the main building. It should be located on the first floor with an outside entrance for grocery deliveries and disposing of waste materials.

FOODS CENTER

The foods center consists of a classroom-laboratory equipped for instruction in health and nutrition, preparation and serving of meals, and home safety. If there is a separate demonstration, conference, and utility area, the washer and dryer will not be installed in the foods center. It will also contain a combination pantry and storage room at one end.

Location:

It should be located near the outside entrance for delivery of groceries and disposing of waste materials. The pantry should be across one end and to the left of the entrance to the foods laboratory.

Size:

1. Approximately 30' x 50' or about the size of two general purpose classrooms.

2. Pantry and storage room should be approximately 6' x 18' with one end 6' long designated as pantry at the left of the entrance. The other part will be used as material center and general storage.

Built-In Equipment:

1. 6 - Kitchen units, containing 4 electric stoves and 2 gas stoves

2. 1 - Wash basin

3. Refrigerator outlet

4. Dishwasher outlet

5. Chalk board - 8 to 10 feet

6. Tack board - 8 to 10 feet near chalk board

7. Visual aid type window shades

8. Small windows placed along upper part of outer wall

9. Screens on windows

10. Washer and dryer outlets - if the demonstration and utility area is deleted

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type

2. 6 - tables, 36" x 54" x 29" with plastic top

3. 33 - plain chairs, 17", book rack optional

4. 1 - bookcase, 48" x 36" x 9" with three adjustable shelves

5. 1 - four drawer file cabinet, legal size

6. 1 - refrigerator, 13 cubic feet

7. 1 - washer (optional)

8. 1 - dryer (optional)

9. 1 - dishwasher

10. 1 - utility cart

11. small equipment and accessories

CLOTHING CENTER

This is a combination classroom-laboratory teaching area. Facilities are provided for teaching clothing, grooming, home care of the sick, home furnishings, child development, and family relations.

Location:

Should be located near the foods center with a room between them for a demonstration, conference, and utility area

Size:

The clothing center should be about 30' x 45' or about 1,200 square feet, the size of one and one-half general purpose classrooms. A fitting room about 4' x 6' should be placed at one end.

Built-In Equipment:

1. 1 - Wash basin near entrance

2. 4 - Double electric outlets for 8 sewing machines along window wall

3. 1 - Double electrical outlet at each end near window wall for 4 additional machines to be added in the future

4. 2 - Electric iron outlets, one 15-A at each end of room near corridor wall

5. Chalk board - 12 feet centered on teaching area

6. Tack board - 12 feet in two sections preferred

7. Visual aid type shades

8. Small windows placed along upper part of outer wall

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29", single pedestal, conference type

2. 33 - plain chairs, 17", book rack optional

3. 8 - sewing chairs, 18"

4. 6 - tables, 42" x 60" with plastic top and glides for tote trays

5. 2 - cutting tables, 36" wide x 84" long x 36" high

6. 8 - sewing machines, cabinet type

7. 1 - teacher's utility cabinet

8. 2 - wardrobe cabinets

9. 3 - tote tray cabinets with trays

10. 2 - ironing boards

11. 1 - triple mirror, each mirror 18" x 60" in one folding frame

12. 1 - fitting stool

13. 1 - four drawer file cabinet, legal size

14. 1 - bookcase, 36" x 48" x 9" with three adjustable shelves ~~and utility.~~

DEMONSTRATION, CONFERENCE, AND UTILITY ROOM

This area is to house demonstration areas of the home: kitchen, dining room, living room, laundry room, and also a conference area. Facilities should be provided for teaching:

A. Child development

B. Housing

C. Family relations

D. Health and home nursing

E. Management

F. Laundry

G. Buying

Location:

Should be located between the foods center and the clothing center or adjacent to them

Size:

1. If it is to house all the above mentioned areas in a three teacher department, it should be about 30' x 40'.

2. If the school is to have a two teacher home economics department, this area should be about 3/4 the size of a standard classroom. It should house the kitchen, living and dining room demonstration area at one end, conference area in the center, and laundry or utility area near the corridor wall.

Built-In Equipment:

1. 1 - Demonstration kitchen (optional)

2. Wardrobes - two or three types built-in in the demonstration area

3. Facilities for washer, dryer, and refrigerator in the laundry area

4. Chalk board - 8 feet long in conference area

5. Tack board - 8 feet long in conference area

6. Bed built into wall for use in home nursing and housing

Other Furniture and Equipment:

1 - 1 - living room set
2. 1 - dining room set
3. 24 - folding chairs
4. 1 - washer
5. 1 - dryer
6. 1 - refrigerator

SENIOR HIGH INDUSTRIAL ARTS

Industrial arts in the senior high is elective for all students but is designed primarily for boys only. The areas covered are general shop, woodworking, metal working, printing, auto mechanics, and mechanical drawing.

It is the philosophy of this educational program that it is just as important to train the hands as well as the mind. The two are closely related and dependent upon each other. Most of the boys will not be financially able to purchase many of the small craft and home beautification services that are needed in daily life. To do many of the small craft type services themselves and use their financial means to purchase the special services, will develop a higher standard of living and a greater appreciation for home and community for most of the students in adult life.

Objective:

Pupils will work with metals, woods, plastics, and other craft materials for the purpose of becoming acquainted with their origin and use. Students will receive instruction in mechanical drawing, wood finishing, art metal, design, model building, furniture making, bench work, sheet metal, metal spinning, wood lathe operation, and metal finishing.

The training will develop the following objectives:

1. APPRECIATION AND USE - To develop in each pupil the appreciation of good design, materials, and workmanship and the ability to select, care for and use industrial products wisely.

2. SELF REALIZATION AND INITIATIVE - To develop in each pupil the habits of self-reliance and resourcefulness in meeting practical situations.

3. COOPERATIVE ATTITUDES - To develop in each pupil a readiness to assist others and to join in socially accepted group undertakings.

4. HEALTH AND SAFETY - To develop in each pupil desirable attitudes and practices with respect to health and safety.

5. INTEREST IN ACHIEVEMENT - To develop in each pupil a feeling of pride in his ability to do useful things and to develop certain worthy free time interest, particularly in the crafts.

6. HABIT OF ORDERLY PERFORMANCE - To develop in each pupil the habit of an orderly and efficient performance of any task.

7. DRAWING AND DESIGN - To develop in each pupil an understanding of all kinds of common graphic representations and the ability to express ideas by means of drawings and sketches.

8. SHOP SKILLS AND KNOWLEDGE - To develop in each pupil skill in the use of common tools and machines, and an understanding of the problems involved in common types of construction and repair.

Location:

The industrial arts shop should be located in the creative arts building or in a separate wing of the main building with the junior high industrial arts. It should be located at the far end of the creative arts area so that the noise will not disturb other school activities. A first floor or ground floor location is preferred. It may be located on the ground floor under the creative arts area.

GENERAL SHOP

Size:

The general shop should be large enough for a class of 32 pupils. The building should contain handicraft areas for: wood working, metal working, electricity, mechanical drawing, crafts, and some provision for a general instructional area. There should be a small storage room for materials 8' x 12', a project room with shelves about 8' x 10', and a finishing room 8' x 8' with exhaust fan. These rooms should form one end of the shop area.

There may be a common area between the junior high shops and the general shop in the senior high for a restroom and general office area for all shops.

Built-In Equipment:

1. There should be a minimum number of small windows placed high on one wall.

2. 40 - Student lockers, minimum

3. 2 - Wash sinks, each three feet long placed on end wall near storage room

4. Chalk board - 8 to 10 feet

5. Tack board - 8 to 10 feet

6. 2 - Hand tool panels on front wall

7. Angle iron racks on one wall in storage room

8. Shelving in project storage room

9. Exhaust fan in spray hood in finishing room

10. Shelving in finishing room

11. 1 - Work counter in finishing room with easy cleaning top

12. Electric outlets - 110 volts

    a. 2 - lathes in wood working area

    b. 1 - drill press in general area

    c. 1 - bench saw in general area

    d. 1 - electric working table

    e. 1 - metal working area

13. Electric outlet - 208 volts - 3 phase (optional)

    a. planer

    b. jointer

14. Lights

    a. 50 foot candles of light in mechanical drawing area

    b. 30 to 40 foot candles of light in the other working areas, including finishing room

    c. 20 foot candles in materials storage room and project storage rooms

15. Restroom - in general area for all shops

16. Drinking fountain - in general area for all shops

Other Furniture and Equipment:

1. 1 - crafts table

2. 1 - metal working table

3. 1 - table for teaching electricity

4. 4 - wood benches near chalk board

5. 4 - light mechanical drawing tables

6. 4 - 30" wood stools

7. 1 - drill press

8. 1 - bench saw

9. 2 - wood lathes

10. 1 - grinder

11. 1 - planer (optional)

12. 1 - jointer (optional

13. 1 - wood teacher's desk, 26" x 42", single pedestal

14. 1 - plain chair, 17"

15. 1 - bookcase

OTHER SHOPS

The other shop courses to be taught will depend upon the needs of the students as determined by the curriculum of the school. The woodworking, metal working, printing, and auto mechanic courses may be taught in separate rooms or multi-purpose shop rooms designed for more than one subject. Seldom will all of the above subjects be taught in the same school. As there may be only one or two classes taught of one or more of the shop subjects, more than one subject will have to be taught in the same shop to fully utilize this shop space.

Location:

These shops will be located in the industrial arts area with the general shop. Some may even be taught in the general shop during the vacant period in that shop.

Size:

About the size of the general shop 1,200 to 1,500 square feet of floor space or large enough to accommodate all the various areas of instruction.

Built-In Equipment and Other Furniture:

The built-in equipment and other furniture will be determined by the shop areas included in the school curriculum and specified by the State Department of Education.

MECHANICAL DRAWING

Three years of mechanical drawing is taught as an elective in the senior high school.

Location:

It should be located in the industrial arts area or any other part of the creative arts area.

Size:

Approximately 32' x 34' including space for storage room, 7' x 10'

Built-In Equipment:

1. Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep, storage and bookcase
2. Chalk board - 16 feet
3. Tack board - 16 feet
4. Cabinet 4' long with sink, island type
5. Shelving in storage room

Other Furniture and Equipment:

1. 1 - wood teacher's desk, 26" x 42" plastic top x 29", single pedestal
2. 1 - plain chair, 17", to match desk
3. 32 - single place mechanical drawing tables with six individual drawers with locks and one storage compartment for six drawing boards
4. 32 - metal stools with foot ring, 30" hign
5. 1 - metal storage cabinet
6. 1 - blueprint machine
7. 1 - blueprint machine table
8. 1 - drafting instrument
9. 1 - table, 30" x 72"

MATHEMATICS

Mathematics is the basis of all science, but the "new" math is more than that. . .it's the basis of all clear thinking. More than anything else, modern mathematics is a shorthand of ideas--a language of quantities and relationships. More and more emphasis is being placed on the need for individuals to be fluent in this language.

The new mathematics is a sort of supplement to ordinary language. It affords a means of thought about form and quantity and a means of expression, more exact, compact, and ready than ordinary language.

The great body of physical science, a great deal of essential facts of financial science, and endless social and political problems are only accessible and only thinkable to those who have a sound training in mathematical analysis.

The time may not be very remote when it will be understood that for a complete initiation as an efficient citizen of one of the new great complex world-wide states that are now developing, it will be as necessary to be able to compute, to think in averages, and maxima and minima, as it is now to be able to read and write.

Increasing emphasis on the teaching of mathematics makes it desirable to provide a special room or laboratory for instruction in this subject area. This space will be used by students learning mathematics through demonstration materials, learning aids, and student projects. Many devices and techniques such as models, mock-ups, construction materials, and tools, as well as laboratory and project activities, will be employed by teachers and students in the instructional program.

Location:

Located on one of the upper floors on the fringe of the academic area in relation to the library. The rooms should be grouped into a math department with a smaller room to be used as a materials center and work room conveniently located to the classrooms.

Size:

1. 25' x 32' or about 800 square feet

2. The short axis of the room should be parallel to the corridor for maximum corridor utilization.

Built-In Equipment:

1. Metal combination cabinet, 66" wide x 66" high x 15" deep, for storage and bookcase

2. Chalk board - about 45 to 50 lineal feet placed on partition wall at front of classroom and on the corridor wall beside the door.

3. Tack board - 16 lineal feet

4. Map rail - placed over front section of chalk board

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29", single pedestal, conference type

2. 1 plain chair, 17", to match teacher's desk

3. 1 - utility table, 30" x 72", adjustable height (demonstration)

4. 4 - plain chairs, 17"

5. 32 - chairdesks, 17" or math tables and chairs

6. 1 - bookcase, 36" x 48", with three adjustable shelves

7. 1 - display case (optional)

8. 1 - metal storage cabinet (optional)

9. 1 - four drawer file cabinet, legal size (optional)

MATERIALS CENTER

The front section of this room will be used for storage and the rear section will be used as a conference room and work center.

Location:

Located centrally for all math rooms

Size:

1/2 to 2/3 the size of a standard classroom

Built-In Equipment:

1. 40" high cabinet with plastic top along corridor wall

2. 12" deep shelving on one partition wall and 24" deep offset type shelving on the other partition wall

3. Tack board - 3' x 6' over work cabinet

4. 1 section of tack board and 1 section of chalk board in conference area

Other Furniture and Equipment:

1. 1 - equipment cart

2. 2 - bookcases, 36" x 48" x 9"

3. 2 - conference tables, 30" x 72"

4. 8 - plain chairs, 17"

MUSIC DEPARTMENT

The music department will consist of vocal music, orchestral music, and band. There will be separate specially constructed areas for vocal music and band, but the orchestral music will usually not be taught in a separate special area. These subjects are elective in senior high school for all students.

Location:

Will be located in the creative arts area between the academic area and industrial arts area and also near the gymnasium with a stage

VOCAL MUSIC

This room will be used for general music classes scheduled in the regular programs, glee clubs, choral groups, choirs, and small vocal ensembles, either as regular program or as co-curricular activities. This classroom will be used for group singing by varying sizes of groups, rhythmic expression. creative activities, music appreciation, listening, discussions, and writing. There will be viewing of films, filmstrips, slides, and tapes.

Location:

Choral music should be located in the first part of the creative arts area and serve as a buffer area between the academic area and the band room and shops.

Size:

The room should be approximately 30' x 40' to accommodate students from two standard classrooms or 64 students. It should be as near square as possible.

Built-In Equipment:

1. Acoustical tile should be placed on the ceiling and continued downwardly from the ceiling one-third of the distance to the floor. Suggested reverberation timings for rehearsal rooms are 1.1 seconds for choral music.

2. Ventilation should be about 1½ of the normal amount for this size area.

3. Two sections of small window with four windows in each section placed in the top part of the outside wall.

4. Semi-circular or U-shape risers 8" high, 32" deep placed in four levels, leaving about 6' free along one end of the risers near the door for shelving.

5. Build approximately 25 linear feet of shelving three shelves high to accommodate students personal books across this end. A music sorting rack may be built in part of this space.

6. Chalk board - 16 feet long, 8 feet of this should be lined with music staves with five lines each 3/16" wide and spaced one and one-eighth between lines.

7. Tack board - 16 feet, half placed on each side of the chalk board at the front of the room.

8. Metal teacher's combination cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

9. Provision for robe storage some place in building

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type

2. [illegible] - chairs with folding arms and flat wooden bottoms

3. 2 - four drawer file cabinet, legal size

4. 1 - storage cabinet for 100 records, stored vertically

5. 1 - metal storage cabinet with lock

6. 1 - piano, upright type

7. 1 - four-speed record player

8. 1 - tape recorder

9. 1 - portable table for tape recorder and record player

INSTRUMENTAL MUSIC

Band or instrumental music is offered as an elective to all students in both junior and senior high schools and is taught as beginning band, advanced band, and marching band. It should be housed in a well insulated area with air conditioning for the summer band program. The wall of the rehearsal room should be irregular in shape and treated for sound at least one-third of the distance from the ceiling to the floor. The ceiling should be constructed with thick acoustical material and covered with regular insulation.

It should also contain one large practice room, two small practice rooms, and a storage room.

Location:

Should be located at the end of the creative arts wing and adjacent to the noisiest part of the industrial arts program. It should be near the gymnasium with a stage and also have an exit out to an outside marching area.

Size:

The building should be 48' x 56' and reverse wedge shape, if possible, with the students playing into the wide end of the building. The rehearsal room should be about 48' x 46'. The large practice room should accommodate eight to ten students and the two small practice rooms should accommodate three to four students each. The storage room should be about 9' x 30'.

Built-In Equipment:

1. Band risers on four levels
2. 1 - Big horn rack, eight place
3. 1 - Bass violin rack, four place
4. 1 - Cello rack, six place
5. 2 - Cabinets, 10' long each, 48" high, 20" deep. This cabinet should be double faced with bookcase space on one side and music sorting rack on the other side.
6. Chalk board - 8 feet
7. Tack board - 8 to 12 feet
8. 1 - Sink for washing mouth pieces in storage room near farthest door from entrance
9. Shelving in storage room
10. A storage cabinet for uniforms, about 6' long in the storage room on the rear wall

Other Furniture and Equipment:

1. 1 - wood teacher's desk, 26" x 42" plastic top x 29", single pedestal
2. 1 - plain chair, 17", to match desk

3. 60 - band chairs with flat bottoms
4. 30 - music stands for students
5. 1 - conductor's stand
6. 1 - four drawer file cabinet, legal size
7. 1 - conductor's stand

ORCHESTRAL MUSIC

Orchestral music is offered as an elective on a limited basis for students majoring in music in high school. It is offered only one or two periods each day and is taught in either the band building, choral music room, or on the stage.

SCIENCE FACILITIES

For too many high school students, learning science is a process of listening to lectures, watching demonstrations, and performing "cookbook" experiments. They have come to depend upon teachers to show and tell. The result is that there's too little opportunity for youngsters to find out things for themselves.

This is neither good teaching nor good science. Teachers, as well as administrators, know this and realize that students must be taught how to use the scientific method to discover the basic scientific principles. Until this takes place, students will never become good science students or good scientists.

The development of citizens who think scientifically rather than assembly-line productions of embryo scientists is the major goal of the science department. The ability and willingness to gather data, to test the facts, and to analyze and evaluate findings are considered to be of chief significance.

New science facilities designed to facilitate a break away from this sterile method of teaching are under construction now in many high schools. New science facilities are designed to enable students to learn for themselves. Using these facilities, they will be told less, but will discover more. Students should be given more than a mere accumulation of facts.

Each of the science rooms will be both a laboratory and a classroom. In the front of a room will be a large demonstration desk which may be equipped with closed-circuit TV. A service table will be at the other end for lectures and discussions.

The science department is made up of four types of science laboratories, all with adequate storage and laboratory facilities. There should be one large assembly room for large TV general science classes and one or two regular general science classrooms. One of the general science classrooms should be equipped for teaching earth science. There should be two biology classrooms or a total of three general science and biology classrooms. Earth science, atmospheric sciences, space science, and cybernetics should be planned for in the science program.

There should be two chemistry rooms and one physics room or one chemistry room and one multi-purpose science room for chemistry and physics. Any otner additional science classes that cannot be accommodated in the subject laboratories mentioned above should be provided for.

Location:

General science and biology should be located on the second floor over the home economics food laboratory or some other area on the first floor that has plumbing facilities. The physics and chemistry should be located on the third floor over the general science and biology. The stacking of plumbing is very practical as well as economical.

GENERAL SCIENCE

General science, taught in ninth grade, will be a continuation of the natural sciences taught on the exploratory basis in the elementary school and in the junior high school which is composed of the seventh and eighth grades. The nature of general science requires that plans be made for a variety of uses. The rooms should provide for experiences of a biological and physical nature, as well as earth-space, meteorology, earth science, and conservation.

Large and small group discussions, teacher demonstrations, and individual and small-group pupil demonstration will occur in this space. The students conduct experiments, build science projects, do planting and potting, prepare biological materials, and prepare cultures. Group projects will be carried on, using pets, fish, and other wild life.

As most of the general science is taught in large TV classes for the average science students, only one or two general science rooms will be needed for the slower students, the remainder of the average students, and the accelerated groups. One general science room should be equipped for teaching earth science also.

Location:

General science rooms should have a southern exposure for a plant center. The south wall should have a large window area where a germinating box on wheels could be placed.

It should be located on the second floor over another laboratory area, on the first floor. If only one general science room is needed, it should be backed up to a biology room. If two general science rooms are needed they should be backed up to each other for use of a common storage room.

Size:

Classroom: 950 to 1,000 square feet

Built-In Equipment:

1. Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

2. Teacher's demonstration desk, 60" x 30" x 36", equipped with water, gas, and electricity, also drawers and storage space. It should be placed at the front of the room and near the storage room.

3. Approximately 20 feet of plastic top counter 38" high with 2 sinks properly spaced and cabinets and drawers below, one-half with locks (optional)

4. Chalk board - 16 to 20 feet on the front wall near the demonstration desk and the storage room

5. Tack board - 16 feet, on a side wall

6. Install exhaust fan to control moisture and odors

7. Audio-visual shades on windows

8. Moisture proof window ledges 18" wide, 100 pound capacity for each, 3 feet length, for plant use

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type

2. 1 - plain chair, 17", plastic seat and back to match desk

3. 8 - tables, 30" x 72" or 16 tables, 24" x 54"

4. 32 - plain chairs, 17", with book rack

5. 1 - display case with glass doors and locks

6. 1 - metal storage cabinet

7. 4 - sections metal shelving for science display

8. 1 - germination box (optional)

COMMON PREPARATION, PROJECT, AND STORAGE ROOM

Location:

Located between two classrooms with doors opening into each room

Size:

Approximately 8' x 24'

Built-In Equipment:

1. 1 - Work cabinet 40" high x 4' long with sink on the end near wall

2. 18' of 12" deep shelving 87" high and 21' of 24" deep offset shelving 87" high

BIOLOGY

The combined classroom and laboratory is well adapted to developmental teaching and learning. In developmental teaching, students experimentation, demonstration, discussion, and other types of learning activities are not carried on as distinct entities but are used whenever needed in the development of a problem. During a single class period students may move readily from short periods of discussion or demonstration to project work of different types, or to individual or group experimentation to answer a question or to clarify a concept. At other times the laboratory work may continue through several consecutive periods.

A small greenhouse built adjacent to the biology room on the first floor or as a projection of the room on the second floor would be very beneficial in the laboratory work.

Location:

Should be on tne second floor in the area with general science. Two biology rooms can be backed up to each other for use of a common storage room or one biology room can be backed up to a general science room for use of a common storage room.

Size:

Classroom: 950 to 1,000 square feet

Built-In Equipment:

1. Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

2. Teacher's demonstration desk, 60" x 30" x 36", equipped with water, gas, and electricity, also drawers and storage space. This will be deleted in the lab-centered type biology room.

3. Approximately 20 feet of plastic top counter with 2 sinks properly spaced, with cabinets and drawers below, one-half with locks (optional), 38" high. This will be deleted in the lab-centered type biology room.

4. Chalk board - 16 to 20 feet, at the front of the room and near the storage room

5. Tack board - 16 feet, dispersed into two sections

6. Install exhaust fan to control moisture and odors

7. Audio-visual shades

8. Moisture proof window ledges under each outside window 18" wide, 100 pound capacity for each 3' length

9. If the lab-centered type biology is taught, install enough 4, 6, or 8-place student science cabinets, island type, along the corridor wall and end wall opposite storage room to accommodate the entire class at one time. These cabinets will replace the equipment listed in points 2 and 3.

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type

2. 1 - plain chair, 17", plastic seat and back to match desk

3. 8 - tables, 30" x 72" or 16 tables, 24" x 54"

4. 32 - plain chairs, 17", with book rack

5. 2 - display cases with glass doors and locks

6. 1 - metal storage cabinet for microscopes

7. 2 - sections metal shelving for science display

8. 1 - germination box (optional)

9. If lab-centered type biology is taught the following will be used instead of plain chairs and tables:

   a. 1 - 24" stool with metal base and back for each student for lab work

   b. 1 - chairdesk 17" high for each student in class

COMMON PREPARATION AND PROJECT ROOM

Location:

Located between two classrooms with doors opening into each biology room. It will occupy the corridor end of the space between the two biology rooms.

Size:

Approximately 9' x 13'

Built-In Equipment:

1. 1 - Work cabinet 40" high along the corridor wall with a sink in the middle for student special project work

2. 2 Sections of 12" deep shelving 87" high on one wall and 2 sections of 24" deep offset shelving 87" high on opposite wall

COMMON STORAGE ROOM

Location:

Located between the two biology rooms and adjacent to project work room with doors opening into both biology rooms

Size:

Approximately 9' x 15'

Built-In Equipment:

1. 1 - Large mop sink centered on wall next to project room

2. 3 Sections 12" deep shelving 87" high on one wall and 3 sections 24" deep offset shelving 87" high on opposite wall

CHEMISTRY

This is a laboratory classroom in which students listen to short lectures, have group discussions, perform individual and group laboratory experiments, see demonstrations by teachers, and work on individual projects. Students learn research techniques, mix chemicals, set up equipment for experimentation, and view audio-visual presentations.

For students enrolled in the CHEM Study courses, learning begins in the laboratory. The experiments developed by the CHEM Study groups are specific in terms of procedure but open-ended as to expected results and interpretations. The instructions include questions to help direct the students' thinking, but they are written in such a way that an experiment has to be performed and thought about to be understood.

Location:

Locate chemistry and physics rooms on the top floor on the same side of the corridor with either common or adjacent preparation and storage rooms.

Size:

Approximately 46' x 33' or 1,500 square feet, including the preparation and storage room

Built-In Equipment:

1. 1 - Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep for storage and bookcase
2. Perimeter work cabinets along the longest wall, island type, for a minimum of 24 students. They should be equipped with water, gas, and electricity.
3. Fume hood with exhaust fan
4. Chalk board - 20 feet near lecture and discussion area
5. Tack board - 16 feet
6. Audio-visual shades
7. One large mop sink with chemical safety flushing equipment

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type
2. 1 - plain chair, 17"
3. 24 - chairdesks, 17"
4. 24 - stools, 24" high with backs for laboratory work

PREPARATION AND STORAGE ROOM

Location:

May be a common preparation and storage room located between two chemistry rooms or an adjacent storage room located between the chemistry, physics, or another science room. If it is an isolated science room the chemistry room should be large enough to contain the storage room.

Size:

12' x 16' or 200 square feet

Built-In Equipment:

1. 1 - Work cabinet 5' long, counter height with sink centered in plastic top of cabinet.

2. Shelving 36" wide x 24" deep offset x 98" high

3. Movable ladder on a track

PHYSICS

As a result of new advances in physics and their rapid application to inventions designed to satisfy men's wants, the world itself has been changing rapidly. Military technology, industrial technology, and the technology of the home, the farm, the office, the bank, and the department store have all been revolutionized.

Clearly, every grown-up today would understand the world he lives in much better if he knew something about physics. Whether it be new weapons, space exploration, atomic reactors, new electronic computer, going to the moon, or the housewife fiddling impatiently with knobs on a new electric range, physics seems to be everywhere.

It is a pattern in which central ideas recur, each time to be carried further in a higher synthesis of ideas. The frequent analysis of experiments in the text and films and the carefully integrated laboratory work strive to give meaning to physical laws and theories and an understanding of how they are formulated.

Location:

Should be located on the top floor in the science area adjacent to the chemistry room

Size:

a. Approximately 30' x 35' or 1,050 square feet, including preparation and storage room

b. Approximately 30' x 32', with adjacent storage room

Built-In Equipment:

1. 1 - Metal combination teacher's cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

2. 1 - Teacher's demonstration desk, 60" x 30" x 60", equipped with gas, water, and electricity, also drawers and storage space

3. 12 - 2 place science tables 24" x 54", with acid resistant top. They should be equipped with gas and electricity and fastened to the floor.

4. 16 feet of chalk board at front of room

5. 16 feet of tack board on side wall

Other Furniture and Equipment:

1. 1 - metal teacher's desk, 30" x 48" plastic top x 29" high, single pedestal, conference type

2. 1 - plain chair, 17" to match desk

3. 24 - plain chairs, 17" or NDEA science stools, 18"

STORAGE ROOM

The storage room will serve as a storage room and a dark room if properly equipped.

Location:

It can occupy part of the storage area between the physics room and another science room or occupy the rear corridor corner of the classroom.

Size:

About 7' x 9'

Built-In Equipment:

1. Sink and work cabinets with acid resisting top placed across the end farthest from door.

2. Double light switch, one for a red light for photography

3. Offset type metal shelving 87" high along one wall

STANDARD CLASSROOM

The standard classroom will be used for instruction in english, social studies, and other general subjects that do not require special work areas. Approximately one-half of the total classrooms in the senior high school will be constructed as a standard classroom, with slight variations for different subject.

Location:

These rooms should form the heart of the academic area and be near the library.

Size:

1. Should be approximately 25' x 32' or 28' x 28' to accommodate 32 to 35 pupils.

2. The short axis of the room should be parallel to the corridor for maximum corridor utilization.

3. A small common area may be constructed between each two classrooms, about 120 to 150 square feet, to be used as a conference room, committee workroom, materials center, and storage room. This may be omitted if a materials center is constructed for each department.

4. Materials center room - one room containing 600 to 800 square feet centrally located in english department and one in social studies department for materials center, conference room, and work room.

Built-In Equipment:

1. Metal combination cabinet, 66" wide x 66" high x 15" deep for storage and bookcase

2. Chalk board - about 24 feet, centered on long axis of classroom

3. Tack board - about 20 feet, placed on side or rear wall

4. Map rail - placed above chalk board

MATERIALS CENTER ROOM

Location:

One conveniently located for english and one for social studies.

Size:

About 3/4 to full size of the standard classroom, 600 to 650 square feet

Built-In Equipment:

1. Shelving and cabinets for storage

2. 1 Section of chalk board and 1 section of tack board may be installed if there is a conference area planned

Other Furniture and Equipment:

1. 1 - work table, 30" x 72", plastic top, adjustable height

2. 4 - plain chairs, 17"

3. 1 - projector cart with casters

4. 1 - motion picture machine

5. 1 - filmstrip machine

6. 1 - overhead projector

7. 1 - portable screen, 3' x 4'

8. 1 - book cart with casters

PART IV

AREAS COMMON TO BOTH JUNIOR AND SENIOR HIGH SCHOOLS

COMMON AREAS FOR JUNIOR AND SENIOR HIGH SCHOOLS

Some areas of the schools can be developed as a more comprehensive unit by being built as a common unit to be used by both junior and senior high schools. These common areas were not economical to construct, organize, or operate for separate junior and senior high schools. Some of the common areas like the library may have one or more sections organized for either the junior high students, senior high students, or faculty.

By organizing these common areas for junior and senior high schools, it permitted the smaller instructional areas to be organized within each school. This is a pioneering trend in school planning and is reflected in the design of this new junior-senior high school. This plan of organization permits smaller schools to operate within a larger school for better administration, supervision, and counseling. This school system has three reorganized schools and one new school in operation on this plan. Two more similar high schools are in the planning stage.

The common areas should be conveniently and centrally located to both the junior high division and the senior high division of the school. This permits maximum use of these facilities and permits the best traffic pattern for the students. This facilitates administration of the two schools and reduces congestion and confusion which should be held to a minimum by the two student bodies.

JUNIOR HIGH AND SENIOR HIGH LIBRARY

The library is the resource center for both students and staff. It should be the focal point of the instructional program of the high school. It should have an informal atmosphere, with books, periodicals, and instructional materials readily accessible to the main reading rooms. The library should be on the first floor between the two schools, yet available to the main traffic flow of students within the building. If it is to be kept open after school hours, nights, and during the vacation periods as a community library, it should be located at the front of the building near the parking lot with an outside entrance.

The library complex includes the two main reading areas, stack area, office and work room, magazine storage room, conference room, professional reading area, reference reading shelves, and individual storage. A film previewing room may be provided for at construction time and developed in the future.

The library should be designed as a materials center, with provision for the centralized selection, ordering, cataloguing, processing, and administration of all library and audio-visual materials. The library should be built to house a minimum of audio and videotapes, programmed instructional materials and the machines required to use them.

Recognizing that each individual student learns by himself--sometimes alone, sometimes in small, medium, or large-size groups--the library learning center provides study spaces in the main library reading rooms for approximately 250 students. Part of this space may include study carrels for individual learning experiences in partial privacy.

SENIOR HIGH SCHOOL READING ROOM

Location:

Should be located as you enter the library from the senior high division of the building

Size:

50' wide x 60' long or about 3,000 square feet total area, including area for conference room and faculty area

Built-In Equipment:

1. Check-out counter, 2 or 3 sections, near entrance

2. Reference shelving, counter height, 10" deep, double faced, for 2,000 to 3,000 volumes

3. 1 - Tack board - 3' x 5', well displayed

Other Furniture and Equipment:

1. Library tables and chairs to seat 80 to 100 people

2. 1 - swivel chair without arms, high type for check-out counter

JUNIOR HIGH SCHOOL READING ROOM

Location:

Should be located on the end of the library as you enter from the junior high division of the building

Size:

50' wide x 35' long or about 1,500 square feet. It should be large enough for two areas each large enough for a core class, and some additional reading area for individual use.

Built-In Equipment:

1. Check-out counter, 2 or 3 sections, near entrance

2. Reference shelving, counter height, 10" deep, double faced, for 1,000 to 2,000 volumes

3. 1 - Tack board - 3' x 5', well displayed

Other Furniture and Equipment:

1. Libary tables and chairs to seat 75 to 80 people

2. 1 - swivel chair without arms, high type for check-out counter

CONFERENCE ROOM

Location:

If a conference room is included, it should be located in one corner of the senior high reading room near the entrance.

Size:

10' x 18'

Built-In Equipment:

1. Observation window for supervision purposes

Other Furniture and Equipment:

1. 2 - tables, 30" x 72"
2. 12 - plain chairs, 17"

COMMON AREAS FOR BOTH JUNIOR AND SENIOR HIGH LIBRARIES

1. STACK AREA

Location:

The stack area should be located near the wall and opposite the work room. It should begin about the middle of the library and extend towards the junior high reading room.

Size:

About 18' wide x 22' long

Built-In Equipment:

1. 20 sections - 36" wide x 16" deep x 82" high, double faced shelving, enough to shelve 10,000 to 12,000 books

2. 6 sections - 36" x 8" x 82", single faced, wall type shelving, enough to shelve 1,000 to 1,200 books

2. WORK ROOM - OFFICE

Location:

Should be located on the opposite wall and across from the stack area

Size:

12' wide x 26' long

Built-In Equipment:

1. 1 - Observation window in junior high end and on front wall

2. Small windows along top of outside wall

3. Book shelving along the walls

4. 1 - Work cabinet, 39" high with plastic top, with sink on the end near the corner

Other Furniture and Equipment:

1. 2 - secretary's desk, with typing pedestal

2. 1 - metal teacher's desk, 30" x 48" x 29" high, single pedestal

3. 3 - secretary's chairs

4. 2 - manual typewriters

5. 1 - metal storage cabinet

6. 2 - book trucks

7. 1 - step stool

3. MAGAZINE STORAGE ROOM

Location:

Adjacent to work room, on the senior high side

Size:

8' wide x 12' long

Built-In Equipment:

1. Magazine storage shelving, 12" deep x 87" high, metal type

2. 24" Deep double faced shelving to be added later

4. FACULTY READING AREA

Ample space must be provided for the display of professional books and magazines.

Location:

Should be located in one front corner of the senior high area of library. The area should be partially enclosed with counter high book shelving

Size:

About 300 square feet

Other Furniture and Equipment:

1. 1 - table, 30" x 72" with plastic top, 29" high

2. 4 - lounge chairs

5. OTHER LIBRARY AREAS

Location:

Between the junior high and senior high library reading rooms and centered in the library between the stack area on one side and the work room - office on the other side of the library

Furniture and Equipment:

1. 2 - 30 tray units of card catalog with 26" leg base and top

2. 2 - magazine racks, free standing

3. 1 - atlas case

4. 1 - dictionary stand

5. 1 - newspaper rack

6. AUDIO-VISUAL AREAS

If the library is to contain listening booths, audio-visual storage, and a film previewing room, additional space in the library should be added for them. The listening booths should be constructed as a group along one side wall of the senior high reading area in the initial building stage of the library or provisions should be made for adding them later. The film previewing room can be constructed at the end of the library as a classroom with both library and hallway entrances. Provision should be made for visual aid storage nearby.

SCHOOL LUNCH DEPARTMENT

Over 10 percent of a family's meals may be consumed by its children in school. As much as 25 percent of what the children eat may come from the school lunch program. The school's food facility is an important service for any community.

For many years critics of rising school construction costs have pointed out the little use we made of the cafeteria. Few such facilities are occupied more than two hours during the school day. On the tight school budget that schools are operating under today the lunchroom spaces must be used far more than this and should make a greater contribution to the total school program.

The cafeteria must be so located and arranged so it can be used as a morning and afternoon collection point for transported pupils who arrive on the early bus route and who leave on the late bus route. It should be used for study halls, large conference or group meetings, general testing programs, after school and evening school activities, and evening community meetings.

Recently we have seen a trend toward "breaking up" this large cafeteria area into smaller spaces for large group classroom instruction, particularly for educational TV. As much as five additional large classroom areas can be added to the instruction program in this way.

CAFETERIA

The cafeteria is divided into a large and a small area for more flexible uses. The small area is located on the junior high side and the large area on the senior high side, each containing two serving lines. They are known as junior high and senior high cafeterias respectively for other school uses; although, the junior high is usually fed first, using the entire facilities and the senior high is fed later in the same manner. This keeps the feeding period short and interferes less with the instructional program.

The small cafeteria will not be needed in the first phase of the building due to the limited capacity of 900 to 1,000 students. It will be converted to industrial arts, four general classrooms, or some other designated use during this period. It will be converted to lunchroom use after the first addition which will be the junior high division.

Location:

Located on the first floor in the common area between the senior high division and junior high division and to the rear of the library. The large cafeteria should be on the senior high side. Both cafeterias should be partitioned off from the serving area and kitchen to control noises from kitchen when the cafeteria is being used for other purposes.

Size:

Junior high - 48' x 60'

Senior high - 80' x 60'

Should seat about 25 to 30 percent of the students

Built-In Equipment:

1. 2 - Drinking fountains (1 in each cafeteria)

2. Exhaust system to exhaust the air from cafeteria into kitchen to control food odors in the cafeteria

3. If conveyor belt is to be used for dirty dishes, it should be located in the partition wall between the two cafeterias with loading windows for use from both cafeterias.

Other Furniture and Equipment:

If a conveyor belt is not used for dirty dishes, stainless steel tables for dirty dishes should be placed in the rear area of each cafeteria to collect dirty dishes and improve the student traffic patterns.

Senior High

1. 60 - tables, 30" x 72" with plastic top

2. 360 - chairs

3. 2 - trash containers

4. 1 - stainless steel cabinet with two hole top for trash for dirty dishes containers

5. 2 - stainless steel tables

6. 2 - dish carts, double decked

Junior High

1. 40 - tables, 30" x 72" with plastic top

2. 240 - chairs

3. 2 - trash containers

4. 1 - stainless steel cabinet with two hole top for trash containers

5. 2 - stainless steel tables

6. 2 - dish carts, double decked

SERVING AREAS

Location:

One serving area should be located between the senior high cafeteria and the kitchen and the other serving area should be between the junior high cafeteria and kitchen, separated by the dishwashing area.

Size:

Each serving area should be approximately 11' x 48'. Each lineal foot of serving counter usually requires about 12 square feet of floor area.

Built-In Equipment:

1. Each serving area should have two counters, one right hand, and one left hand for serving hot and cold foods. Class A type lunch program requires that a specified hot lunch be served. This will accommodate four serving lines of students.

2. 1 - Checking station for each two counters, placed between them

3. Each serving area should have a 4' x 4' chalk board with an 18" x 4' tack board across the top for menu posting.

DISHWASHING AREA

The trend is toward washing by machine to lower labor costs and to insure sanitary and clean operation.

Location:

Located between the two serving areas and adjacent to the kitchen

Size:

23' x 28'

Built-In Equipment:

1. 1 - Dishwasher, large size, with built-in holders on a conveyor belt

2. 1 - Triple sink, one of them large enough for washing the largest pans. The sink counter area by the dirty dish window should have two holes for depositing garbage into cans.

3. 1 - Wash basin

KITCHEN

At the heart of the entire feeding process are the preparation and cooking areas of the school kitchen. Work centers for various preparation and cooking departments deserve careful study to insure a proper flow of food through and within the various departments of the kitchen. With the trend towards the preparation of large quantities of cooked foods, it becomes increasingly important to minimize the distance between these cooking areas and the serving counter.

Heated and refrigerated pass through compartments are a great help in minimizing the distance traveled if they can be located between the production departments and the corresponding service areas on the cafeteria counter. Much equipment is being made mobile either through the addition of wheels or by mounting on portable tables. This means greater equipment utilization and helps to lower costs.

Location:

The kitchen will be located to the rear of and paralled with the long axis of the serving areas. It should have outside entrance for food deliveries and garbage pick up.

The kitchen area will include: fresh vegetable preparation area, baking area, refrigerated storage, two dry storage rooms, maintenance area, office for lunchroom manager, and a combination dressing and rest room.

Size:

150' x 34', paralled to the serving counter

FRESH VEGETABLE PREPARATION AREA

Location:

Near dishwashing and serving areas, on right side

Built-In Equipment:

1. 1 - Mechanical counter with two double sinks, work area around each pair of sinks and the end near potato peeler which is in the corner

2. Potato peeler

3. 1 - Salad table, 2'6" wide x 8' long x 3' high

4. 1 - Sandwich table, 2'6" wide x 8' long x 3' high

5. 1 - Cooling rack, 29" wide x 69" long x 68" high

COOKING AND BAKING AREA

Location:

Center-rear of kitchen

Built-In Equipment:

1. 3 - Ranges with two compartment ovens, 26" wide x 28" deep x 14½" high

2. Range canopy, with condensation gutter on inside of all 4 sides and a drip gutter

3. 1 - Bake oven, two sections, 4 compartment type each 42" wide x 32" deep x 7" high

4. 1 - Roast oven, two sections, 2 compartment type each 42" wide x 32" deep x 12" high

5. 2 - Steam-jacketed kettles, 60 gallon each

6. Vegetable steamer, 2 decked type

7. Mixer, 60 quart capacity

8. Slicer

9. Food cutter or Schnell cutter

10. 1 - Cooks table, 2'6" wide x 8' long x 3' high

11. Sauce pan rack, 8' long on the cooks table

12. 1 - Baker's table, 2'6" wide x 7'9" long x 2'10" high

13. 1 - Utility table, 2'6" x 4' long x 3' high

DRY STORAGE

Location:

To avoid using too much space out of one end of the kitchen for dry storage room, about 2/3 of the dry storage area should be on the senior high end of the kitchen near the delivery entrance. The other dry storage room for the long time storage should be in the other end of the kitchen. Each storage room should be ventilated and be free of any heat radiating motors.

Size:

1. 22' x 25' large dry storage room, near delivery entrance

2. 14' x 20' small dry storage room, at the opposite end of kitchen

Built-In Equipment:

1. 36" x 12" x 87" high metal wall shelving

2. 36" x 24" x 87" high metal island shelving

REFRIGERATED STORAGE

Location:

1. The walk-in refrigerator and walk-in freezer should be placed at the rear of the kitchen on the opposite side of the receiving doors from the large dry storage room. The walk-in refrigerator and freezer floor should be level with the kitchen floor and made of same tile materials. Have a temperature indicator on the outside of all built-in refrigeration units. The same mechanical unit can be used for both units.

2. Two reach-in refrigerators - one located near each serving area. If there is a wall between the kitchen and serving area, the reach-in refrigerators may be built in this wall with a door opening from each side.

OFFICE AREA

Location:

Should be near the receiving door and placed at one end of the preparation area. It should be located against a short partition about 5' high and 6' long.

Built-In Equipment:

1. 1 - Outside phone
2. 1 - Inter-com phone

Other Furniture and Equipment:

1. 1 - wood teacher's desk, 26" x 42" plastic top x 29"
2. 1 - plain chair, 17"
3. 1 - four drawer file cabinet, letter size

DRESSING ROOM AND RESTROOM

Location:

Should be located in the end of the kitchen near the small dry storage room

Size:

8' x 14'

Built-in Equipment:

1. 1 - Commode - restroom
2. 1 - Wash basin - restroom
3. 8 to 10 Coat hooks - one end of dressing room

MAINTENANCE AREA

Location:

Should be located at one end of the kitchen with access to the outside near the driveway. The outside loading dock floor should be level with the kitchen floor.

Size:

6' x 10'

Built-In Equipment:

1. 1 - Mop sink

2. 1 - Can wash area with can spray cleaner and a floor drain

3. 1 - Garbage can truck

FACILITIES FOR HEALTH, PHYSICAL EDUCATION, RECREATION, ATHLETICS, AND AUDITORIUM

Adequate school facilities are necessary if schools are to meet the challenges of the modern day school curriculum. It is necessary that planners of school plants keep in mind the function of various phases of the curriculum. In physical education the major functions commonly accepted are to promote the health and physical education development of the pupils by engaging in useful physical skills, socially useful practice, and wholesome physical recreation.

In order to develop an adequate program, pupils must participate in a great variety of physical activities. This makes it important to give proper attention to site selection, indoor facilities, and outdoor areas. Health, physical education, recreation, and athletics are all a part of one large curriculum area and should be considered as one unit in planning and developing facilities. Since most of physical education instruction is given in the seventh, eighth, and ninth grade at the present time, this facility is constructed as a common area to the junior and senior high schools.

The physical education building should contain a stage at one end of the gym. The gym will serve as an auditorium for school and community assemblies.

Location:

1. Located on the ground level and accessible to outside activity areas. It should have a ramp up to floor level to roll in portable equipment.

2. Available from parking areas for after school use

3. Doors leading from dressing areas directly to outside

Size:

1. Gym - large enough to accommodate bleachers on both sides and one end to seat 2,000 to 2,200 students and two basketball courts side by side when the bleachers are folded. It should also accommodate three volleyball courts.

2. Two instructors' offices each 8' x 8'

3. Boys' dressing room for physical education

   a. 30' x 50' with a small toweling area

   b. athletic storage, 8' x 10', with dutch door opening into gym

c. shower rooms - 10' x 16', with at least 15 shower heads

4. Girls' dressing room for physical education

a. 30' x 60' with small toweling area and 6 modesty showers

b. shower room - 10' x 14', with at least 12 shower heads

c. athletic storage room - 8' x 10', with dutch door available from gym

5. Varsity room - with departmental storage for the various fall, winter, and spring sports

6. Training room - large enough for physical examination and first-aid equipment, whirlpool bath, and laundry equipment

7. General storage

a. physical education - for storage of trampoline, parallel bars, vaulting horses, etc.

b. stage and gym equipment - large enough to store stage equipment and about 300 folding chairs for the combination auditorium and gym

Built-In Equipment:

1. 2 - Fan shaped glass backboards and 4 wooden backboards on the sides for two cross courts.

2. Receptacles in the gym floor for standards.

3. Climbing rope near opposite end of gym from dressing rooms.

4. Climbing bar at one end, near climbing rope.

5. 6 - Mat hangers on one end of gym near dressing rooms.

6. 2 - Mouth rinse fountains on one end of gym near dressing rooms

7. Folding bleachers on each side of gym and maybe the end opposite the stage.

8. Stage with curtains

9. Combination six person lockers - one small compartment per student in both girls and boys physical education dressing rooms

10. 1 - Chalk board - 4' x 6', in each dressing room

11. 1 - Tack board - 3' x 5', in each dressing room

12. Limited restroom facilities in each dressing room.

13. Whirlpool bath in training room.

14. Heavy duty washer and dryer in training room.

15. Shelving and hanging racks in varsity room.

16. Shelving in both athletic storage rooms.

Other Furniture and Equipment:

1. Each instruction office
   a. 1 - wood teacher's desk, 26" x 42" plastic top x 29", single pedestal
   b. 2 - plain chairs, 17"
   c. 1 - four drawer file cabinet, letter size
   c. 4 - coat hooks
2. Each dressing room
   a. 12 - lockers benches, 8' long
3. Training room
   a. 1 - scale, heavy duty
   b. 1 - table, first-aid type
4. Varsity room
   a. 36 - lockers, 12" x 36", double deck, back to back down middle of room
   b. 12 - locker benches, 8' long
5. Gymnasium
   a. 6 - tumbling mats
   b. 2 - sets of volleyball standards
   c. 1 - trampoline
   d. 1 - paralled bar
   e. 1 each - vaulting horse, chinning bar, balance beam

SCHOOL SITE

The site is an integral part of the total school plant and may contribute to or hinder the achievement of a school's educaton objectives. Most people now recognize that the modern educational program cannot be confined within the walls of the school building. A modern program promotes many activities that must be carried on outdoors. Physical education and school and community recreation make specific demands for outdoor areas that are well-planned and properly developed. The school site should be such that it will contribute positively to the health, safety, and social aspects of the child's life at school.

Choosing a good site is one of the important early steps in over-all plant planning. In our suburbian area, the site should be chosen and purchased in the early stages of new developments before the price of adjacent land sky rockets and your choice of selection is reduced. Ample consideration should be given to certain basic principles involved in good site selection. These principles, when studied in the light of their relation to the local situation, should provide a basis for the objective selection of best site available.

Location:

1. Should be near but not on a main traffic artery

2. Should have a safe sight distance of at least 500 feet in each direction at vehicle entrances and exits onto public roads, streets, or highways.

Size:

Should be a minimum of 10 acres plus an additional acre for each 100 or fraction of 100 students of anticipated enrollment.

Site Purchase:

1. A fee simple title shall be obtainable, both to surface and mineral rights of the land.

2. No power lines, gas lines, easements, etc., may be located on the site.

3. A safe and sufficient water supply must be available.

4. If sewers are not available, a sanitary sewage system approved by the State Department of Health and Jefferson County Health Department must be constructed.

5. A copy of the deed to the property on which construction will take place must be furnished to the Division of Buildings and Grounds, State Department of Education.

Site Facilities:

The entire site through the final stages of development should be planned before any construction is initiated for better organization and maximum utilization of the entire school site.

1. BUILDINGS

a. Locate for minimum sun and glare exposure, heat build-up, noise attenuation, and site space utilization.

b. Public access to the publicly used portions of school plant should be convenient.

c. Buildings should be placed in such a manner that an undue number of walks and drives will not be required.

d. Building should be placed for separation of boys and girls in physical education fields.

2. DRIVEWAYS AND WALKS

a. Only one front entrance and exit for traffic control which should not be on a heavily traveled thoroughfare.

b. A rear entrance for student use to a rear parking lot from a lesser traveled street if possible.

c. Safe walks for pedestrians, adjacent to school property and entrance to property.

d. Provision should be made for minimum conflict between teachers, students, pick up cars operated by parents, and school bus traffic.

e. A covered walkway should connect all separate buildings.

3. PARKING LOT

a. Total black top parking space for about 600 cars for school functions. This includes the black top play area.

b. Most of the parking area should be centered around the academic building, gymnasium, and the football field.

c. Teacher parking for about 50 cars should be related to the academic building.

d. The visitor parking for about 10 cars should be near the main entrance to office area.

e. Bus parking for 12 to 15 buses should be in front of the loading dock.

f. Student parking for about 15% of student body or about 300 cars should be in the rear lot with a separate entrance, if possible, for better school control of student driving.

g. Bicycle parking on the black top area near the health building or main building, using an offset or angular area.

4. OUTDOOR ALL WEATHER PLAY AREA

a. There should be two outdoor basketball courts with 6 goals in the play area of the parking lot. Two of the goals will face out from the courts for one goal play.

b. There should be sufficient space for volleyball and kick ball in physical education classes.

5. FOOTBALL AND TRACK

The football field should be over in the side corner of the site near the gymnasium to use the large common parking area. This leaves the other areas open for developing for baseball, softball, and hockey.

6. BASEBALL

Since the baseball field will be used only at the end of the school day during baseball season, the baseball field should be located so as to serve as a natural division between the boys and girls outdoor physical education facilities.

7. SOFTBALL

There should be a minimum of two softball fields for boys on one side of the baseball diamond and two softball fields for girls on the other side, using the baseball outfield as overlapping playground.

8. HOCKEY FIELD

Some preliminary provision should be made for a future hockey field, graded during the excavation period.

9. TENNIS COURTS

Plans should be made for 2 or 3 tennis courts which will probably be developed in the future by local community effort through the local recreation program.

10. SWIMMING POOL

An outdoor swimming pool should be planned near the dressing room facilities of the gymnasium; this also will have to be developed in the future by the local recreation program.

Grading:

1. All grading must be completed before seeding.

2. There shall be no grade with over 12% slope, except between the walks and the building, for mowing with power machinery.

3. Balanced cut and fill must be used to avoid unnecessary movement of earth to and from the site.

r. Proper on site and off site drainage must be provided.

5. All excavated areas must be covered with top soil for seeding purposes.

Landscaping:

Planting should be located around the main approach or front of the building and should furnish a proper setting for the building.

Surfacing:

1. The sidewalks along the driveways should be concrete and contiguous to curbs.

2. They should be not less than 5 feet in width and shall be kept clear of hydrants, poles, and other hazards.

Fencing:

1. The practice of using fence on the school site varies with the need of the school.

2. The front of the building should be fenced to control unauthorized traffic when there are no school activities.

3. Fencing may be constructed where the school causes student traffic through subdivision property, expecially along walks.

4. Public utilities should be fenced to guard against vandalism.